DOCUMENT RESUME

ED 126 265 CE 007 284

TITLE Operation Resource: Abstracts of Current Curriculum Development Activities in Industrial Arts Teacher Education.

INSTITUTION American Council on Industrial Arts Teacher Education, Washington, D.C.

PUB DATE 76

NOTE 193p.; Prepared by the Undergraduate Studies Committee

EDRS PRICE MF-$0.83 HC-$10.03 Plus Postage.

DESCRIPTORS *Abstracts; *Curriculum Development; Educational Innovation; Elementary Secondary Education; *Industrial Arts; Instructional Materials; Program Descriptions; Program Development; *Resource Guides; *Teacher Education; Teaching Methods

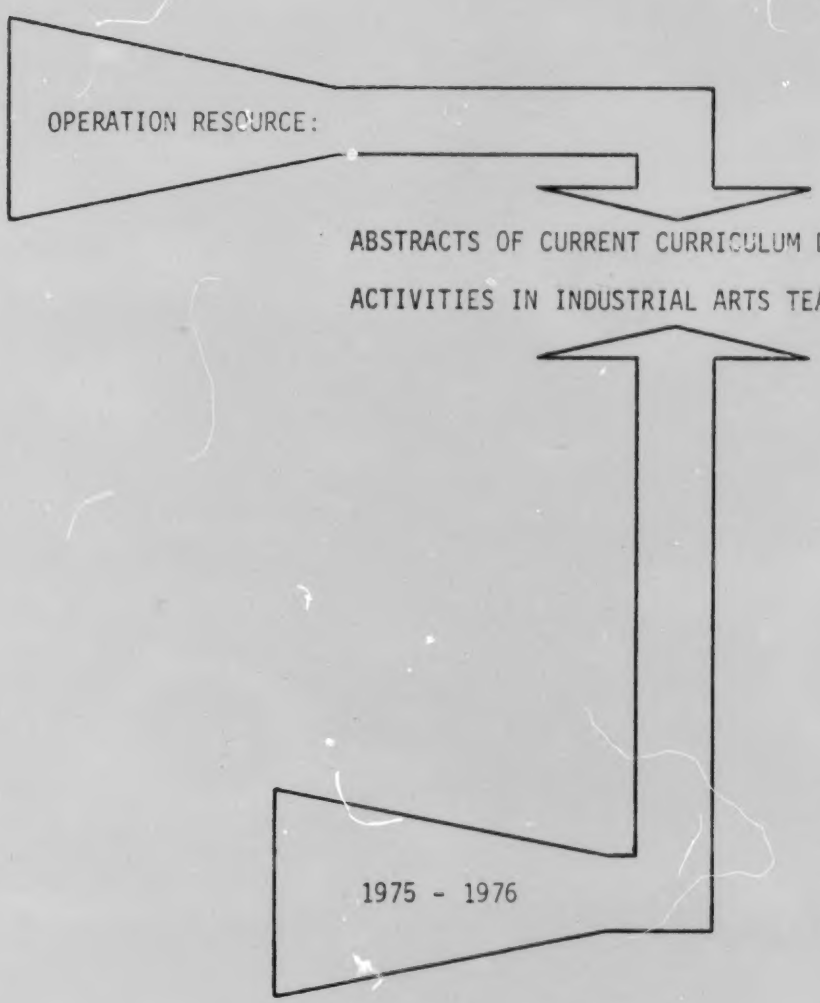
IDENTIFIERS *Operation Resource

ABSTRACT

The publication, intended to serve as a resource document for industrial arts educators and to function as a tool for stimulating interaction between research and curriculum development personnel, contains abstracts on innovative activities in the area of industrial arts teacher education as well as those relating to other levels of instruction. Also included are reports on instructional devices (models, games, simulators, audiovisual material), instructional techniques (individualized instruction, micro-teaching, role playing), special target groups (disadvantaged, ethnic groups), and program rationales (conceptual models, philosophies). An introductory section presents information on objectives, scope of the guide, and on how to submit abstracts. Each abstract has been indexed by up to five descriptors (which identify the topics reported on) and by institution. Section 2 of the guide contains these indexes which list abstracts by an assigned code. The 89 two-page abstracts in the third section consist of the following items: title of activity, department/division, institution/organization, city and State, director(s) of activity, dates initiated and concluded, sponsor/funding agent, descriptors, purposes/goals/objectives, progress to date, future plans, project publications, and sources of available information. (Author/MS)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED126265


OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT
ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION
1975 - 1976

UNDERGRADUATE STUDIES COMMITTEE
AMERICAN COUNCIL ON INDUSTRIAL
ARTS TEACHER EDUCATION

CEO072841

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

PREFACE

The American Council on Industrial Arts Education has three primary purposes as stated in its constitution:

1. To support and further the professional ideals of industrial arts education.
2. To define and strive to achieve the purposes and professional goals of industrial arts teacher education, and to enlist the greatest possible number of people in this endeavor.
3. To stimulate research and the dissemination of information of professional interest.

The achievement of these goals is accomplished through the combined contribution of many individuals and Council committees. A significant contribution has been made to the realization of these goals through the development of OPERATION RESOURCE.

Under the guidance of the Undergraduate Studies Committee, abstracts of current curriculum development activities in industrial arts teacher education have been solicited and indexed for dissemination. In addition to serving as a resource document for industrial educators, this publication is intended to function as a tool for stimulating interaction between research and curriculum development personnel. The expedient advancement of contemporary programs within industrial arts requires continued communication between members of the profession. When individuals and/or institutions with similar goals and programmatic thrusts are identified and brought together, both parties invariably benefit from the experience.

The A.C.I.A.T.E. is pleased to sponsor and support the further development of OPERATION RESOURCE. A special word of appreciation is extended to the following Undergraduate Studies Committee members who have made the realization of this publication possible.

Glenn Bettis, East Tennessee State University
Lorimer Bjorklund, St. Cloud State University
Robert Hanson, Auburn University
A. Dean Hauenstein, Florida International University
Irvin Lathrop, California State University, Long Beach
Harry Olstad, University of Wisconsin, Stout
Louis Pardini, Arizona State University
Douglas Pine, Committee Chairman, University of Northern Iowa
John Schenck, University of South Dakota

Special thanks is also extended to all individuals who have made a contribution to OPERATION RESOURCE by submitting one or more abstracts. The true success of this document can be attributed directly to our colleagues in the field. The American Council on Industrial Arts Teacher Education solicits your continued support and utilization of OPERATION RESOURCE.

Walter C. Brown
President, A.C.I.A.T.E.

TABLE OF CONTENTS

	Page
Section 1: Introduction to OPERATION RESOURCE	1
Objectives	1
Scope of OPERATION RESOURCE	1
How To Submit Abstracts	2
Section 2: Indices	4
Descriptor Index	6
Institution Index	14
Section 3: Abstracts	18

SECTION 1

INTRODUCTION TO OPERATION RESOURCE

Objectives

OPERATION RESOURCE has been developed to serve industrial arts teacher educators by fulfilling the following objectives:

1. Assess industrial arts teacher education curriculum development efforts currently under way or just recently completed.
2. Offer individuals and institutions conducting curriculum development activities a comprehensive document that would identify and describe relevant studies at other institutions.
3. Increase communication and cooperation between institutions with similar curriculum development interests.
4. Seek out less structured kinds of investigative, developmental activities not normally reported through other indexing systems.
5. Keep curriculum developers abreast of current activities in the field by periodically up-dating the resource document with revised abstracts, new abstracts, and a new index.

Scope of OPERATION RESOURCE

The scope of OPERATION RESOURCE is quite broad. Abstracts were solicited on any activity that might provide a "new wrinkle" in some area of industrial arts teacher education. Although this publication focuses on industrial arts teacher education, abstracts relating to

other levels of instruction are included. This approach seemed to be quite appropriate since teacher educators need to keep abreast of developments at the elementary, junior high, senior high, and adult education levels of industrial arts instruction. Such information should substantially aid teacher educators in developing and updating methods, course construction and facilities planning courses.

In addition to information on various levels of irstruction, OPERATION RESOURCE includes reports relative to instructional devices (models, games, simulators, A-V material), instructional techniques (individualized instruction, micro-teaching, role-playing), special target groups (disadvantaged, ethnic groups), and program rationales (conceptual models, philosophies). A complete listing of descriptors is included in Section 2. The Undergraduate Studies Committee is especially interested in seeking out the smaller, less structured kinds of developmental activities that are making worthy contributions to the advancement of industrial arts teacher education.

How To Submit Abstracts

Each abstract follows a predetermined format as can be noted in Section 3. Each abstract may be assigned up to five descriptors for the purpose of indexing. Abstract forms, a listing of available descriptors, and detailed directions may be obtained by writing to the Chairman of the Undergraduate Studies Committee, A.C.I.A.T.E. If a current name and address is not readily available, direct your correspondence to:

Dr. Ervin A. Dennis, Secretary
A.C.I.A.T.E.
Department of Industrial Technology
University of Northern Iowa
Cedar Falls, Iowa 50613

SECTION

INDICES

Each abstract is categorized under two different indices. The descriptor index identifies the topics being reported upon through the abstracts. Each abstract has been assigned up to five descriptors. Descriptors within this index have been grouped around the following general headings:

Program Development

Target Groups

Related Disciplines

Program Levels/Types

Administration

Program Outcomes/Functions

Instructional Techniques/Hardware

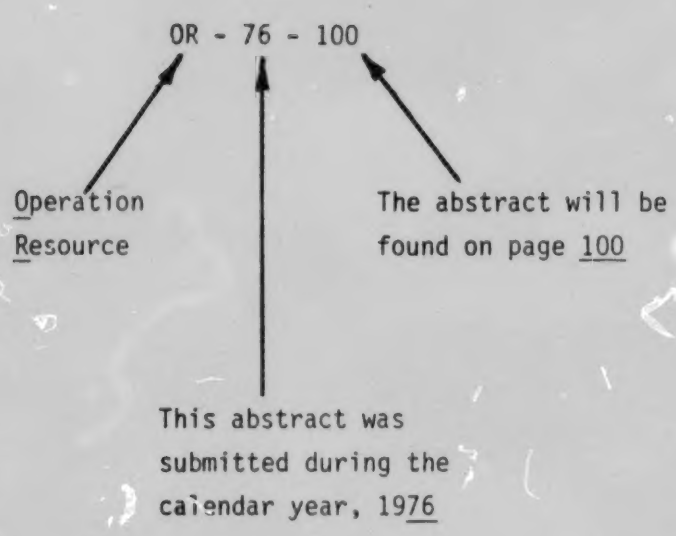
Program/Subject Areas

Abstracts have also been indexed by institutions. This allows an individual to assess the scope of curriculum development activities at a particular institution.

Each abstract has been assigned a code for purposes of indexing. These codes are printed in the upper-right corner of the abstract. An example code with information for decoding appears in Figure 1.

Figure 1

Abstract Code System


OR - 76 - 100
Operation
Resource
The abstract will be found on page 100
This abstract was submitted during the calendar year, 1976

Descriptor Index

Program Development

Behavioral Objectives

OR-75- 8
OR-75-18
OR-75-43
OR-75-53
OR-76-63
OR-76-87

Course of Study

OR-76-63
OR-76-73
OR-76-77

Course Unit

OR-75-16
OR-75-52
OR-75-61

Curriculum Development (Revision)

OR-75- 2
OR-75- 6
OR-75- 7
OR-75- 8
OR-75- 9
OR-75-10
OR-75-14
OR-75-15
OR-75-19
OR-75-32
OR-75-33
OR-75-35
OR-75-37
OR-75-41
OR-75-45
OR-75-49
OR-75-51
OR-75-52
OR-75-54
OR-75-58
OR-75-61
OR-76-66
OR-76-67
OR-76-75
OR-76-85
OR-76-87
OR-76-89

Curriculum Models

OR-75- 2
OR-75- 7
OR-75-16
OR-75-20
OR-75-29
OR-75-34
OR-75-41
OR-75-42
OR-75-48
OR-76-64
OR-76-71
OR-76-72
OR-76-84
OR-76-85

Definitions

Facility Planning

OR-75-26
OR-76-68
OR-76-86

Objectives

OR-75-23
OR-75-24
OR-75-60

Program Planning

OR-75- 7
OR-75-26
OR-75-27
OR-75-40
OR-75-49
OR-76-71
OR-76-86

Public Relations

Recruitment

Research

OR-75-28
OR-76-70
OR-76-71
OR-76-75

OR-76-76
OR-76-84
OR-76-89

Test Development

OR-75-25

Target Groups

Deprived Youth

OR-76-63

Disadvantaged

OR-75-34

Drop-outs

Ethnic Groups

Exceptional Children

OR-76-79

Faculty

OR-75-21
OR-75-22
OR-76-68

Females

Foreign Countries

Handicapped

OR-75-34

Retarded

Special Education

OR-75-47

Related Disciplines

Chemistry

Mathematics

OR-75-22

Physics

Psychology

OR-75- 2

Reading

Science

Program Levels/Types

Adult Education

OR-75-21
OR-75-22
OR-75-46

Apprenticeship

Clubs

Elementary Education

OR-75-37
OR-75-47
OR-75-48
OR-75-54
OR-76-71
OR-76-76

General Education

OR-75-22
OR-76-72
OR-76-73

General Laboratory

OR-75-10
OR-75-13
OR-75-26
OR-76-68

Graduate Programs

OR-76-63

Higher Education

OR-75- 6
OR-75-19
OR-75-20
OR-75-23
OR-75-40
OR-75-52
OR-75-53
OR-75-60

Innovative Programs

OR-75- 1
OR-75-14
OR-75-15
OR-75-24
OR-75-25
OR-75-36
OR-75-39
OR-75-40
OR-75-41
OR-75-49
OR-76-66
OR-76-73
OR-76-85

In-Service Education

OR-75-12
OR-75-43
OR-75-45
OR-75-47
OR-76-77
OR-76-79
OR-76-80
OR-76-88

Interdisciplinary

OR-75-35
OR-75-37

Junior College

Junior High School

OR-75-10
OR-75-11
OR-75-14
OR-75-35
OR-75-36
OR-75-37
OR-75-51
OR-75-54
OR-76-67
OR-76-86
OR-76-89

Practical Arts

OR-75-27

Prescriptive Education

Private Schools

Professional Courses

OR-75- 5
OR-75-12
OR-75-21
OR-75-22
OR-75-39
OR-75-42
OR-75-49
OR-75-51
OR-75-57
OR-75-59
OR-76-66
OR-76-80

Senior High School

OR-75-10
OR-75-14
OR-75-19
OR-75-32
OR-75-33
OR-75-34
OR-75-36
OR-75-48
OR-76-86

State Department of Education

OR-75- 6

Undergraduate Programs

OR-75- 6
OR-75-10
OR-75-12
OR-75-15
OR-75-29
OR-75-32
OR-75-33
OR-75-38
OR-75-39

OR-75-40
OR-75-41
OR-75-48
OR-75-53
OR-76-62
OR-76-66
OR-76-70
OR-76-77
OR-76-79
OR-76-84

Unit Laboratory

OR-76-68
OR-76-78

Administration

Administration

OR-76-68

Advisory Committees

Budget

Evaluation-Faculty

Finances

Financial Aid

Leadership

OR-75- 5

Supervision

OR-75-21

Program Outcomes/Function

Achievement

OR-75-14
OR-75-17
OR-75-19

Attitude (Affective)

Avocational (Recreational)

OR-75-17

Career Education

OR-75-11
OR-75-27
OR-75-30
OR-75-37
OR-75-39
OR-75-40
OR-75-54
OR-75-55
OR-75-60
OR-76-71
OR-76-73

Certification

OR-75-16
OR-75-34

Competencies

OR-75- 6
OR-75-17
OR-75-18
OR-75-23
OR-75-24
OR-75-38
OR-75-49
OR-75-51
OR-75-57
OR-76-62
OR-75-70
OR-76-76
OR-76-79

Creativity

Culture

OR-76-72

Knowledge (Cognitive)

OR-75- 3
OR-75-13
OR-75-18
OR-76-74

Manipulative (Psychomotor)

OR-75-18

Motivation

OR-75- 5
OR-75-17

Personality Traits

OR-75-11

Placement

Problem Solving

OR-75- 5
OR-75-44
OR-76-67

Skill

OR-75-17

Instructional Techniques/Hardware

Audio-Visual

OR-75-21
OR-75-26
OR-76-65
OR-76-77
OR-76-83

Cluster Approach

OR-75-11
OR-75-29
OR-75-41

Competency Based

OR-75- 2
OR-75-12
OR-75-29
OR-75-38
OR-75-42
OR-75-43
OR-75-45
OR-75-53
OR-75-57
OR-75-58
OR-76-62
OR-76-76
OR-76-79
OR-76-81
OR-76-84

Computerized Instruction

OR-75-25

Conceptually Based

OR-75-29
OR-76-72

Counseling (Guidance)

OR-75-27

Demonstration

Educational Games

OR-75- 3

Evaluation-Criterion Referenced

OR-75-42
OR-75-43

Evaluation-Program

OR-75- 2
OR-76-70
OR-76-86

Evaluation-Student

OR-75-13
OR-75-25

Films

Follow-up

OR-76-86

Group Approach

OR-75-48

Individualized Instruction

OR-75- 1
OR-75- 9

OR-75-12
OR-75-19
OR-75-23
OR-75-24
OR-75-26
OR-75-30
OR-75-43
OR-75-45
OR-75-52
OR-75-61
OR-76-62
OR-76-80
OR-76-81
OR-76-82
OR-76-87

Instructional Devices (Equipment)

OR-75-13
OR-75-28
OR-75-44
OR-76-77
OR-76-82

Instructional Materials (Media)

OR-75- 1
OR-75- 3
OR-75-28
OR-75-30
OR-75-32
OR-75 33
OR-75-43
OR-75-56
OR-75-57
OR-75-61
OR-76-65
OR-76-76
OR-76-81
OR-76-83
OR-76-88
OR-76-89

Laboratory Based

OR-75- 3
OR-75- 8
OR-75- 9
OR-75-16
OR-75-36

Laboratory Organization

OR-75- 9
OR-75-20

Lecture

Methods

OR-75-20
OR-75-57
OR-75-59
OR-76-62
OR-76-66
OR-76-80

Micro-Teaching

Programmed Learning

OR-76-80
OR-76-82

Projects

OR-76-78

Self Evaluation

Simulation

OR-75-28

OR-75-44
OR-76-73

Student Teaching

OR-75-59

Systems Approach

OR-75-20
OR-75-30
OR-75-42
OR-75-45

Technology Based

OR-75-41
OR-75-47

Program/Subject Areas

Automation

Computer

OR-75-55
OR-76-75

Numerical Control

OR-75-28
OR-76-75

Communication Systems

OR-75-55

Graphic Communication (Arts)

OR-75- 1
OR-75-18
OR-75-55
OR-76-88

Photography

Printing

OR-76-81

Construction

OR-76-84

Design

OR-76-67

Architecture

Drafting/Drawing

OR-75-44
OR-75-61

Product R & D

Engineering

Cost Accounting

Maintenance

Market Research

Methods Engineering

Process R & D

OR-76-75

Production Planning

Production Control

Quality Control

Safety

Tool Design

Work Measurement

Environmental Studies

Extra Curricular

History

OR-76-74

Labor

Legislation

Management

Manufacturing (Mass Production)

OR-75- 5
OR-75-32
OR-76-33
OR-75-48
OR-76-64
OR-76-65
OR-76-72
OR-76-75

Material Processing Systems

OR-75-38
OR-76-67

Adhesives

Arts and Crafts

OR-75-24

Ceramics

Finishing

Foundry

Laminating

Machine Tools

Metals

Plastics

Sheet Metal

OR-75-44

Textiles

Welding

OR-75-46

Woods

OR-75-36

Material Testing

Metallurgy

Metric System

OR-75- 3

Personnel Technology

Philosophy

Power Systems

OR-76-74
OR-76-87
OR-76-89

Electricity

OR-76-78
OR-76-82

Fluid Power

Mechanical Power

OR-75-23
OR-76-83

Nuclear Power

Solar Power

Thermal Power

Servicing

Transportation Systems

OR-76-88

Aeronautics and Aerospace

OR-75-15
OR-76-88

Land Transportation (Auto)

OR-76-83

Material Handling

Water/Sea Transportation

Institution Index

Alabama

Arizona

Arizona State University

OR-75-35

Arkansas

California

California State University (L.A.)

OR-76-81

Colorado

University of Northern Colorado

OR-75-25
OR-76-82

Connecticut

Central Connecticut State College

OR-76-79

Delaware

University of Delaware

OR-75-45

Florida

Florida International University

OR-75-49
OR-75-51

Florida State University

OR-75-37

Georgia

Georgia Southern College

OR-75-16

Savannah State College

OR-75-61

Hawaii

Idaho

Illinois

Illinois State University

OR-76-62

Indiana

Ball State University

OR-76-64
OR-76-65
OR-76-66

Indiana State University

OR-75-30

Iowa

University of Northern Iowa

OR-75- 3
OR-75-12
OR-75-13
OR-75-18
OR-75-19
OR-75-26
OR-75-28
OR-75-29

Kansas

McPherson College

OR-75-17

Kentucky

Eastern Kentucky University

OR-75-21
OR-75-22
OR-75-60

Louisiana

Maine

University of Maine (Portland-Gorham)

OR-75-52

Maryland

University of Maryland

OR-75-57
OR-76-85
OR-76-86

Massachusetts

Fitchburg State College

OR-75-41
OR-76-87

Michigan

Eastern Michigan University

OR-75-54
OR-75-55
OR-75-56
OR-75-58
OR-75-59
OR-76-88

Lake Superior State College

OR-75-38

Northern Michigan University

OR-75-23
OR-75-24

Wayne State University

OR-75-42
OR-75-43

Minnesota

University of Minnesota

OR-76-80

Mississippi

Jackson State University

OR-76-77

Mississippi State University

OR-75-5

Missouri

Northeast Missouri State University

OR-75-10

Southwest Missouri State University

OR-75-27
OR-75-36
OR-75-44

University of Missouri-Columbia

OR-76-71

Montana

Nebraska

Chadron State College

OR-76-83

Nevada

New Hampshire

New Jersey

Trenton State College

OR-75-32
OR-75-33
OR-75-34
OR-75-47

New Mexico

New Mexico Highlands University

OR-76-63

New York

Fox Lane Middle School

OR-76-67

New York University

OR-75- 7
OR-75- 8
OR-75- 9

State University College

OR-76-74

North Carolina

North Dakota

Ohio

Ohio State University

OR-75-20
OR-76-84

Oklahoma

Northwestern Oklahoma State University

OR-75-46

Oregon

Pennsylvania

California State College

OR-76-76

Puerto Rico

Rhode Island

Rhode Island College

OR-76-78

South Carolina

Clemson University

OR-75- 1

South Dakota

Tennessee

Texas

Southwest Texas State University

OR-75- 2

Texas A & M University

OR-76-75
OR-76-89

Utah

Vermont

Virginia

Virginia Polytechnic Institute and State University

OR-75-11
OR-75-15
OE-76-73

Washington

Eastern Washington State College

OR-75-39
OR-75-40

Washington State University

Or-75-48

West Virginia

Fairmont State College

OR-75- 6
OR-75-53

West Virginia University

OR-76-72

Wisconsin

University of Wisconsin-Platteville

OR-75-14

University of Wisconsin-Stout

OR-76-68

Wyoming

Canada

University of Alberta

OR-76-70

SECTION 3

ABSTRACTS

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Graphic Communications Curriculum

Department / Division: Industrial Education Department

Institution / Organization: Ind. Ed. Clemson University

City, State: Clemson, South Carolina Zip Code: 29631

Director(s) of Activity: J. Page Crouch Title: Assoc. Prof.

Date Initiated: 1971 Date Concluded: 1974

Sponsor / Funding Agent: Printing Industry of the Carolinas, S.C. Dept. of Ed-Voc-Ed.

Descriptors:

Innovative Programs

Individualized Instruction

Graphic Communication

Instructional Materials

Purpose / Goals / Objectives of Activity:

Prepare for entry into graphic arts industry or for graphic arts teacher preparation.

Progress to Date:

In use in approximately 100 institutions including migrant farm schools, prisons, jr-sr high schools, community colleges, 4 year colleges, technical institutes and industrial in-plant training.

Progress to Date (continued):

Plans For the Future:

Provisions exist to continually up-date and add new self instructional programs as they are needed. This work to begin August, 1975.

Project Publications:

Several sound-slides programs are available. Also there are 30 LAPs, a comprehensive curriculum guide and a script book. Has been widely publicized in Printing Trade Press.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Sales brochures explaining total project.

Person to Contact Bill Treadway Office Phone 704-344-6444

Address PICA Foundation, P. O. Box 4487, Charlotte, North Carolina 28204

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Texas Industrial Arts Curriculum Study

Department / Division Industrial Arts

Institution / Organization Southwest Texas State University

City, State San Marcos, Texas Zip Code 78666

Director(s) of Activity Dr. John R. Ballard, Dr. M.D. Williamson Title Professors of Industrial Arts

Date Initiated June, 1966 Date Concluded August, 1976

Sponsor / Funding Agent Moody Foundation & Texas Education Agency

Descriptors:

Curriculum Development

Psychology

Competency Based

Program Evaluation

Curriculum Models

Purpose / Goals / Objectives of Activity:

1. To develop a psychological base.
2. To develop a philosophical base.
3. To develop a model for curriculum derivation.
4. To develop a competency based K-12 structure for industrial arts.
5. To develop and evaluate the eighth grade program specified in the competency based K-12 structure.

Progress to Date:

Three monographs have been written concerning the pyschological base, philosophical base, and curriculum development. At the present time a competency based K-12 structure for industrial arts is being developed.

Progress to Date (continued):

Plans For the Future:

Based on the results of the evaluation phases, three alternative plans for industrial arts will be submitted to the Texas Education Agency for consideration.

Project Publications:

Michael J. Pierson. A Psychological Base for Education. San Marcos: Texas Industrial Arts Curriculum Study, 1974.

Michael J. Pierson. A Philosophical Base for Industrial Arts. San Marcos: Texas Industrial Arts Curriculum Study, 1974.

Michael J. Pierson. Analysis of Transaction: A Curriculum Process. San Marcos: Texas Industrial Arts Curriculum Study, 1974.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Monographs are available at no cost.

Person to Contact Dr. Michael J. Pierson Office Phone 512-245-2350

Address Department of Industrial Arts, Southwest Texas State University, San Marcos, Texas 78666

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Metric Classroom Game

Department / Division Industrial Technology

Institution / Organization University of Northern Iowa

City, State Cedar Falls, Iowa Zip Code 50613

Director(s) of Activity Ronald Bro Title Assoc. Prof.

Date Initiated January 15, 1975 Date Concluded

Sponsor / Funding Agent

Descriptors:

Instructional Materials

Metric System

Laboratory Activity

Educational Games

Knowledge

Purpose / Goals / Objectives of Activity:

To help teach fundamentals of the SI Metric System of Measurement. The Educational Game Format is a motivational technique.

Progress to Date:

The game has been developed and is ready for pilot testing. It will be used in a Drafting Class Spring Semester 1975.

Progress to Date (continued):

Plans For the Future:

No special plans.

Project Publications:

None.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Instructions and illustration of game board; $2.00 for materials, handling, and postage.

Person to Contact Ronald Bro Office Phone 319-273-2561

Address Department of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Interpretation of Modern Industry

Department / Division Industrial and Occupational Education

Institution / Organization Mississippi State University

City, State State College, Mississippi Zip Code 39762

Director(s) of Activity E.D. Groves Title Assoc. Prof.

Date Initiated 1968 Date Concluded Continuing

Sponsor / Funding Agent University course

Descriptors: (5 only)

Professional Courses

Manufacturing

Leadership

Motivation

Problem Solving

Purpose / Goals / Objectives of Activity:

To provide a laboratory environment which allows industrial arts teacher trainees and industrial technology students to duplicate the life cycle of a corporation. Self-motivation is emphasized by giving the student corporation personnel complete control over the destiny of the corporation. The corporation activities include development of a product, organization of corporation personnel, procurement of materials, production design, market analysis, finance, sales, personnel management, and quality control.

Progress to Date:

Course has been taught about fifteen times, with each corporation activity being different. Distribution of products has varied from individual sales to wholesaling to contractural services. Students participate in student evaluation, and provide critique that permits changing the course each semester to take advantage of student suggestions.

Progress to Date (continued):

Plans For the Future:

Plans are being made for the Department's Industrial Education Association to underwrite and staff a retail outlet to sell student-made products including those produced in the Modern Industry's corporations.

Project Publications:

Groves, E. D. Laboratory of Industry for the Industrial Arts Class (Jackson, MS: Mississippi Department of Industrial Arts).

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Monograph listed above. No cost.

Person to Contact E.D. Groves Office Phone 601-325-5932

Address Industrial Education Department, Drawer NU, State College, Mississippi 39762

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Competency Based Curriculum for Technology Education in Higher Education

Department / Division Division of Technology

Institution / Organization Fairmont State College

City, State Fairmont, West Virginia Zip Code 26554

Director(s) of Activity Dr. James Hales Title Div. Director

Date Initiated August, 1974 Date Concluded In progress

Sponsor / Funding Agent Fairmont State College

Descriptors:

Higher Education
Curriculum Development
Undergraduate Programs
State Department of Education
Competencies

Purpose / Goals / Objectives of Activity:

To develop competency based instruction for undergraduate industrial arts education curriculum to meet State Certification standards (competency based).

Progress to Date:

Initial competencies have been established.
Curriculum has been revised.
Individual course of study model is being developed.

Progress to Date (continued):

Plans For the Future:

Program will be implemented during first semester 1975-1976. Study, evaluation, and revisions will follow.

Project Publications:

None.

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

Person to Contact Dr. James Hales Office Phone 304-367-4156

Address Fairmont State College, Fairmont, West Virginia 26554

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Utilization of a Curriculum Design as a Guide to Curriculum Development in Technology Education

Department / Division Technology and Industrial Education

Institution / Organization New York University

City, State New York, New York Zip Code 10003

Director(s) of Activity Ronald D. Todd Title Chairman

Date Initiated Fall, 1974 Date Concluded Spring, 1976

Sponsor / Funding Agent No outside funding

Descriptors:

Curriculum Models

Curriculum Development

Program Planning

Purpose / Goals / Objectives of Activity:

This activity was and is being directed toward identifying the role, problems, and potential of Curriculum Design as a "plan for planning" in guiding the process of curriculum development.

Progress to Date:

Present efforts support the notion that a Curriculum Design as a public display of developmental intentions can help to focus the work of individuals involved in a cooperative project.

An in-depth consideration of what a Curriculum Design might look like, what are its parts, and how might it be used has been conducted.

A conceptual framework of a Curriculum Design is presently being developed.

Progress to Date (continued):

Plans For the Future:

Development of several articles on the role and use of Curriculum Design.

Development of a Handbook on Curriculum Design.

Project Publications:

A Conceptual Framework of Curriculum and its Relationship to Instruction and Evaluation.

An Overview of a Proposed Curriculum to Reflect Technology, the "World of Work" and Careers.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: The articles listed as Project Publications. Cost is $1.00 each to cover cost of publication and mailing.

Person to Contact Ronald D. Todd Office Phone 212-598-3356

Address 26 Stuyvesant Street, Room 309, New York University, 3358

Department of Technology and Ind. Educ., New York, New York 10003

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: The Development of a Flexible Instructional Learning and Evaluation (FILE) System for Curriculum

Department / Division: Technology and Industrial Education

Institution / Organization: New York University

City, State: New York, New York Zip Code: 10003

Director(s) of Activity: Ronald D. Todd Title: Chairman

Date Initiated: Fall, 1972 Date Concluded: Spring, 1973

Sponsor / Funding Agent: No outside funding

Descriptors: Curriculum Development

Behavioral Objectives

Laboratory Activities

Purpose / Goals / Objectives of Activity:

This activity was directed toward developing an approach to curriculum development that would provide a flexible format, support a cumulative effect, support instructional accountability, provide for individual planning styles, and assist in the transfer of responsibility of learning to the student.

Progress to Date:

The FILE System has been developed and tried out to determine its major shortcomings. Some revision of the system was completed toward the end of the project.

Progress to Date (continued):

Plans For the Future:

It is presently planned that the FILE System will be used in the development of selected courses in the Department of Technology and Industrial Education. Following this field testing additional revisions will be made in the system. A proposed Handbook for the System is being considered.

Project Publications:

Introduction to the Flexible Instructional, Learning, and Evaluation (FILE) System.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: The article listed above as Project Publications. Cost is $.50 to cover the cost of duplication and mailing.

Person to Contact Ronald D. Todd Office Phone 212-598-3356

Address 26 Stuyvesant Street, Room 309, New York University, 3358 Department of Technology and Industrial Education, New York, NY 10003

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Utilization of the Organizing Center as a Tool of Curriculum Development in Technology Education

Department / Division Technology and Industrial Education

Institution / Organization New York University

City, State New York, New York Zip Code 10003

Director(s) of Activity Ronald D. Todd Title Chairman

Date Initiated Fall, 1974 Date Concluded Fall, 1975

Sponsor / Funding Agent No outside funding

Descriptors:

Individualized Instruction

Curriculum Development

Laboratory Organization

Laboratory Based

Purpose / Goals / Objectives of Activity:

This activity is directed toward developing a new planning tool for curriculum development that will provide an alternative to the standard behavioral objective first approach. It is intended that the Organizing Center approach, that uses "center of attention" to focus the attention of learners and teachers during instruction, will support teachers in planning for instruction.

Progress to Date:

The project has shown the usability of the Organizing Center approach both in technology oriented education and in general education specifically at the elementary school level.

The approach has been field-tested with teachers in career education, vocational education, industrial arts, and elementary education.

Progress to Date (continued):

Plans For the Future:

It is anticipated that following the successful completion of the project that a text on The Organizing Center; An Alternative to Curriculum Planning will be drafted and considered for publication.

Project Publications:

Curriculum Planning in Support of the Open Classroom.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: The article listed as the Project Publication. Cost is $1.00 to cover the cost of duplication and mailing.

Person to Contact Ronald D. Todd Office Phone 212-598-3356

Address 26 Stuyvesant Street, Room 309, New York University, 3358

Department of Technology and Ind. Educ., New York, New York 10003

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Multi-Area Curriculum Study in Industrial Education

Department / Division: Practical Arts Division

Institution / Organization: Northeast Missouri State University

City, State: Kirksville, Missouri Zip Code: 63501

Director(s) of Activity: Dr. Robert L. Stephens Title: Assoc. Prof.

Date Initiated: November, 1973 Date Concluded: December, 1974

Sponsor / Funding Agent: Northeast Missouri State University

Descriptors:

Curriculum Development (Revision)
General Laboratory
High School
Junior High School
Undergraduate Programs

Purpose / Goals / Objectives of Activity:

To gather data to determine if certain instructional materials of the required courses for the Multi-Area Preparation (program to prepare IA teachers for junior high schools and/or one man IA departments in small high schools) could be eliminated, reduced, altered, or reorganized to provide a more efficient and relevant program of studies at this insitution.

Progress to Date:

353 items of instructional content from 7 subject matter areas were rated on importance by 215 industrial arts teachers from northeast Missouri and southeast Iowa. Mean numerical values were computed for each item based upon teacher response.

Subject matter areas included in the study were wood, metal, drafting, electricity/electronics, crafts, power, and general shop organization and management.

General information concerning the teaching responsibilities of the teachers indicated 106 of the 215 responding perceived themselves as general shop teachers. An average of 3.44 subject matter areas were taught by the teachers considering themselves general shop teachers.

Progress to Date (continued):

Teaching assignments as indicated by the total response was: Wood-61%; Drafting-58%; Metal-52%; Elec/Elec-32%; Crafts-21%; Power-21%; Other-17%; including 7% - IACP.

Plans For the Future:

None at present.

Project Publications:

None at present.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Summary-free upon request

Total Study - $3.00

Person to Contact Dr. R.L. Stephens Office Phone Ext. 3357

Address Northeast Missouri State University, Kirksville, Missouri 63501

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Design, Field Testing, and Implementation of a Curriculum for a Career/Vocational Orientation Course for the Middle and Junior High Schools of the Commonwealth of Virginia

Department / Division Division of Vocational and Technical Education

Institution / Organization Virginia Poly. Institute and State Univ.

City, State Blacksburg, Virginia Zip Code 24061

Director(s) of Activity William E. Dugger
Ralph Ressler Title Co-Directors

Date Initiated July 1, 1974 Date Concluded June 30, 1977

Sponsor / Funding Agent State Department of Education

Descriptors:

Junior High School

Career Education

Personality Traits

Cluster Approach

Purpose / Goals / Objectives of Activity:

This course, when implemented, will provide students of the state a foundation for career selection and further orientation to exploratory and vocational offerings. The design of this experience is based upon three curriculum strands or themes which are evident throughout the 180 day experience: Personality Characteristics of the Learner, Work Environments found in all categories of occupations, and the 15 USOE Career Clusters.

Progress to Date:

During the initial phase of the three year project, four publications will be developed. The rationale, giving justification of the course approach and design, is expected to be completed by March 1975. By completion of Phase I, a teacher's implementation guide, a student activities book, and student reading materials will have been developed. In addition, an extensive in-service program involving identified field test teachers has begun during the curriculum development phase.

Progress to Date (continued):

Plans For the Future:

The objective of Phase II of the CACO Project is the field testing curriculum materials in ten different school systems identified throughout the state. After testing, curriculum, materials will be revised.

Phase III will involve further field testing of the revised materials in fifteen school systems throughout the state. Upon completion of the final year of field testing, the curriculum materials will be revised a second time and made available to all school systems within the state during the 1977-78 school year.

Project Publications:

1. Rational of the Clusters Approach to Career Orientation Project
2. Teachers implementation guide
3. Student activity book — Available to Public in
4. Student reading materials — 1977
5. CACO Newsletter

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Newsletter, Project Description, Project information - all information is free.

Person to Contact Staff Office Phone 703-951-5444

Address CACO Project, Price House - 2nd Floor, VPI & SU, Blacksburg, Virginia 24061

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Development of Competency Based Teacher Education Modules for Independent Study

Department / Division Industrial Technology

Institution / Organization University of Northern Iowa

City, State Cedar Falls, Iowa Zip Code 50613

Director(s) of Activity Arnold J. Freitag Title Asst. Prof.

Date Initiated September, 1973 Date Concluded August, 1974

Sponsor / Funding Agent Co-sponsor Iowa Dept. of Public Instruction

Descriptors:

Professional Courses
Individualized Instruction
Competencies Based
In-Service Education
Undergraduate Programs

Purpose / Goals / Objectives of Activity:

Develop content and structure of professional core courses (required for vocational and technical teacher approval) permitting the applications of contemporary concepts and practices of individualized instruction as well as the use of multi-media.

Progress to Date:

Materials field tested during summer of 1974, then fully implemented in fall of 1974. Competencies were established for four professional courses. Training packets were developed to enable the student to attain identified competencies. Utilized audio cassettes, readings, and sound-film strip programs.

Progress to Date (continued):

Plans For the Future:

Maintain constant updating and improving of existing material. The format model will have applications for other courses.

Project Publications:

None.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: "Sample Module Components for Independent Study Courses" - Cost: $1.00

Person to Contact A. J. Freitag Office Phone 319-273-2561

Address Department of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Testing/Learning Response Board

Department / Division Industrial Technology

Institution / Organization University of Northern Iowa

City, State Cedar Falls, Iowa Zip Code 50613

Director(s) of Activity James P. LaRue Title Professor

Date Initiated 1970 Date Concluded

Sponsor / Funding Agent None

Descriptors:

Knowledge (cognitive)

Evaluation - Student

Instructional Devices (Equip.)

General Laboratory

Purpose / Goals / Objectives of Activity:

This is a device in the form of an electric (battery operated), self-scoring punchboard to be used when responding to a teacher-prepared test of multiple choice or true-false items. The device developed by James P. LaRue, Ed.D., and Robert Lee Burkgren, M.A.: 1) is inexpensive to construct, 2) is simple to operate, 3) is cheat proof, 4) is exceedingly flexible in regard to changing from one testing situation to the next, 5) indicates the accuracy of the answer automatically, 6) uses ordinary 8½"x11" typing paper for answer sheets on which a permanent record of all responses is made, 7) permits (in the case of incorrect answers) additional responses to be made until the correct answer is found.

Progress to Date:

The unique aspect of this device is the metal key: 1) It is punched to remove metal at positions representing incorrect answers and leave metal at positions representing the correct answer, thus permitting the completion of an electric circuit which causes a light to glow providing positive reinforcement, 2) It is designed in such a way that a single key turned end for end or over, provides 4 different sequences of answers depending on the orientation of the key as it is inserted into the board, 3) The key utilizes very inexpensive material, yet is very durable, 4) The tooling costs to produce such keys should be slight. This metal key and the use of plain 8½x11 paper which must be punched completely through with an electric probe in order to make a response eliminates the possibility of cheating and results in expensive answer sheets that provide a permanent record of answers, immediate feedback, continued responding until the correct response is made

Progress to Date (continued): (a correct answer "window" lights up) and student determination of test results.

It is believed that: 1) The device will be useful at all levels of education where tests utilizing separate answer sheets are appropriate, 2) The semi-automatic aspects of this device will appeal to students because of the fun associated with being quizzed in such a manner, 3) The teacher will appreciate the device because it all but eliminates the drudgery of test scoring, 4) Immediate knowledge of results provided by the device is consistent with the leading theories of learning, 5) Each test becomes a learning situation as well as a means of evaluating achievement, 6) This device will enable teachers to handle the individual differences of students in an appropriate manner by testing them on a schedule based on the progress of each. For example, in courses in which students rotate through units of instruction on an individual basis or as members of a subgroup, testing can be coordinated with the individual student's completion of the various units rather than at specified times throughout the course regardless of students dissimilar experimental bases.

Plans For the Future:

Produce sufficient numbers of the device to permit use with multiple sections of large classes and redesign testing program to capitalize as one of the main advantages of the device, i.e., to enable tests to be administered to students in multiple activity courses in the basis of their individual readiness.

Project Publications:

None.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Working drawings, Information regarding the Testing/Learning Device Rationale for its use, Directions to Teacher and Student, Sample Key, Cardborad Key for verifying that correct responses have been made.

Person to Contact James P. LaRue Office Phone 319-273-2561

Address Dept. of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OR-75-14

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Industriology

Department / Division Industrial Education

Institution / Organization University of Wisconsin-Platteville

City, State Platteville, Wisconsin Zip Code 53818

Director(s) of Activity Dr. Jack Kirby Title Dept. Head

Date Initiated 1966 Date Concluded

Sponsor / Funding Agent USOE

Descriptors:

Innovative Programs

Curriculum Dev.

Junior High School

Senior High School

Achievement

Purpose / Goals / Objectives of Activity:

An industrial arts curriculum project aimed at up-dating and improving junior and senior high school industrial arts programs through a broad, comprehensive approach to a study of industry.

Progress to Date:

Phase I curriculum has been developed through analysis of industry, programs have been developed and tried in schools, instructional materials have been developed and are available, the concept has been described nationwide, and the teacher education program reflects it.

Progress to Date (continued):

Plans For the Future:

Phase II materials will be developed and tried out.

Project Publications:

Descriptive materials - free
4 Booklets for Phase I (Study Guide, Information and Job Sheets, Teaching Plan, Instruction Aids & Bibliography - $6.50)
4 Slide sets - Raw Materials-Metal Extraction, Industrial-Economic Cycle, Activities of Industry, Manufacturing Industries-Tire Mfg. - free loan or $12.00 per set.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: 4 Booklets $6.50 (see above)

4 Slide Sets $12.00 per set (see above)

Person to Contact Dr. Jack Kirby Office Phone 608-342-1248

Address Head, Department of Industrial Education, UW-Platteville,

Platteville, Wisconsin 53818

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Industrial Arts Space Technology Curriculum Project

Department / Division: Vocational-Technical Education

Institution / Organization: Virginia Polytechnic Institute & State Univ.

City, State: Blacksburg, Virginia Zip Code: 24061

Director(s) of Activity: Dr. William E. Dugger Title: Assoc. Prof.

Date Initiated: July 1, 1974 Date Concluded: August 31, 1975

Sponsor / Funding Agent: NASA - Langley Research Center, Hampton, VA

Descriptors: Aeronautics & Aerospace

Curriculum Development Innovative Programs

Purpose / Goals / Objectives of Activity:

1. To employ a graduate consultant to work with the project;
2. To identify 8-10 field test centers in Virginia;
3. To visit each field test center;
4. To coordinate efforts with personnel from NASA and Virginia State College;
5. To provide information and/or assistance to field test teachers;
6. To revise curriculum materials in space technology.

Progress to Date:

A graduate consultant, Mr. Charles D. Miller, was hired and began work on August 1, 1974. Fourteen teachers have been tentatively selected to participate as field test teachers. There is a total of twelve schools involved, with two elementary schools and the remainder at the junior and senior school levels. The schools are located in both rural and urban settings. Several meetings have been held with representatives from NASA Langley Research Center and Virginia State College personnel. All field test centers have NASA sources. Through a visitation program sponsored by NASA, approximately 7,500 students were exposed to information and demonstrations on space technology. Nine hundred of these students were in industrial arts courses. Revision of curriculum materials has begun. Approval has been obtained

Progress to Date (continued):

from all interested parties to develop booklets on the three universals of technology: communications, transportation, and production.

Plans For the Future:

Plans call for the completion of booklets in Communications and Transportation and possibly a teacher guide in methodology for teaching space technology.

Project Publications:

First publication date projected for April, 1976.

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Dr. William E. Dugger Office Phone _____

Address Virginia Polytechnic Institute and State University,

Blacksburg, Virginia 24061

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Activities of Industry Simulated in Education

Department / Division: Industrial Arts

Institution / Organization: Georgia Southern College

City, State: Statesboro, Georgia Zip Code: 30458

Director(s) of Activity: R. Nelson & L. Selvidge Title:

Date Initiated: 1968 Date Concluded:

Sponsor / Funding Agent: None

Descriptors:

Curriculum Models

Undergraduate Programs

Laboratory Based

Course Unit

Certification

Purpose / Goals / Objectives of Activity:

To present brief but basic study and activities in the activity areas, functions and sub-functions of industrial enterprises. To prepare undergraduate students for living in a society where industrial enterprises are a dominant institution, and, to prepare industrial arts teachers for certification to teach a study of industry. To develop a delivery system for a continuum of a study of industry through simulation and student involvement in laboratory and class activities evolving from activities of industrial enterprises.

Progress to Date:

1. Authenticity established by patterning content after activities, functions, and sub-functions of industrial enterprises as identified by the Association of Consulting Management Engineers, Inc. in their publication Common Body of Knowledge for Management Consultants.
2. Perimeters of a continuum for study, identified and developed for implementation and curriculum development.
3. Field testing, revision, and retesting completed.
4. Pilot text-lab materials written and tested for Level I.
5. 1973 - First Printing of lab-text materials for Level I.

Progress to Date (continued):

Plans For the Future:

1. Revision and improvement of basic lab-text materials and publishing for distribution and sale.
2. Development of second level materials emphasizing: (a) Pre-Processing; (b) Processing; and (c) Post-Processing in an industrial enterprise.
3. Development of third level materials around specified areas of R & D, Production, Process Control, Materials Systems, Machine Systems, Design, etc.

Project Publications:

ACTIVITIES OF INDUSTRY: Nelson, Rex A., and Lewis R. Selvidge, Jr. Vog. Publishing Co., 104 Pen-Win Drive, Statesboro, Georgia 30458, 262 pps.

"Manufacturing: A General Studies Course," Selvidge, M/S/T, April, 1974.

"The Industrial Arts Teacher and His Content: Indentification Before Delivery," Nelson, M/S/T, Dec., 1972.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Description of student involvement in class and laboratory activities, and, cognitive, affective and psychomotor applications.

Person to Contact R. Nelson/L. Selvidge Office Phone 912-681-5600 Ext. 332

Address Division of Technology, Georgia Southern College, Box 8044, Statesboro, Georgia 30458

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Restoration Technology (Initially in antique automobiles)

Department / Division Industrial Educ. Dept., Applied Arts Division

Institution / Organization McPherson College

City, State McPherson, Kansas Zip Code 67460

Director(s) of Activity Dr. Alvin E. Willems Title Dept. Chairman

Date Initiated January, 1975 Date Concluded

Sponsor / Funding Agent Private - 1.5 million dollar trust

Descriptors:

Skills (craftsmanship)
Achievement
Motivation
Avocational
Competencies

Purpose / Goals / Objectives of Activity:

The program objective is to develop in qualified students the skills necessary for the restoration of antique and classic automobiles. These skills, as identified, have technological transferability to a vast range of job possibilities. Key words are: skill, achievement, attitude, competency, creativity, motivation, problem solving, finesse.

Progress to Date:

Program planning well under way.
Building program started, educational specs completed.
Funding complete.
Equipment needs identified.
Potential clientele identified.
Potential additional staff identified.
Advisory committees functioning.
Library started.
Aims and objectives tentatively approved.

Progress to Date (continued):

Plans For the Future:

Expansion into other antique restoration.

Project Publications:

None to date.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: In the form of an information sheet. No charge.

Person to Contact Dr. Alvin E. Willems Office Phone 316-241-0731

Address McPherson College, McPherson, Kansas 67460

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Compugraphic Compuwriter Jr. Competency Testing Procedure

Department / Division Department of Industrial Technology

Institution / Organization University of Northern Iowa

City, State Cedar Falls, Iowa Zip Code 50613

Director(s) of Activity Ervin A. Dennis Title Professor

Date Initiated January, 1975 Date Concluded Continuing

Sponsor / Funding Agent None

Descriptors:

Knowledge
Behavioral Objectives
Manipulative
Competencies
Graphic Arts

Purpose / Goals / Objectives of Activity:

To prepare students to use the compugraphic compuwriter Jr. Photo Composition machine.

To give students experience in accomplishing basic machine functions through the completion of basic exercises.

Progress to Date:

Students are asked to thoroughly read and study the first and second volumes of the Compugraphic Programmed Instruction manual. Upon completing this step, students are given the opportunity to write a 30 question paper and pencil test on the general area of composition (volume 1). Upon successful completion of this test (90% in a minimum of 3 attempts), each student then reviews and completes five composing exercises which are outlined in volume 2 with 90% accuracy. When these steps are accomplished, a student may then use the typesetting machine at any time.

Progress to Date (continued):

Plans For the Future:

Refinement and continued use of this plan in classes.

Project Publications:

None.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: A sample "Competency Testing Procedure Form" will be furnished upon request at no cost except for an addressed, stamped (2 first class stamps) #10 envelope.

Person to Contact Ervin A. Dennis Office Phone 319-273-2561

Address Professor, Dept. of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Course Learning Agreement

Department / Division: Department of Industrial Technology

Institution / Organization: University of Northern Iowa

City, State: Cedar Falls, Iowa Zip Code: 50613

Director(s) of Activity: Ervin A. Dennis Title: Professor

Date Initiated: September, 1971 Date Concluded: Continuing

Sponsor / Funding Agent: None

Descriptors:

Higher Education
Curriculum Development
High School
Individualized Instruction
Achievement

Purpose / Goals / Objectives of Activity:

To improve learning.
To improve instruction.
To provide for an organized course in regard to course requirements.

Progress to Date:

Used the "learning agreement" (course contract) for 8 full semesters and 3 summer sessions with excellent results. Most students appreciate knowing what requirements, in specific terms, there will be or are for the entire course.

Some problem with students not desiring to establish a course final grade goal for themselves. With encouragement, these students will review their past grade attainments, their available time, and their general abilities for the course content and then establish their personal goal for a final course grade.

Progress to Date (continued):

Plans For the Future:

Continued use and revision of the basic document.

Project Publications:

None.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: A sample "Learning Agreement" will be furnished upon request at no cost except for an addressed, stamped (2 first class stamps) #10 envelope.

Person to Contact Ervin A. Dennis Office Phone 319-273-2561

Address Professor, Department of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Development of a Systematized Model for Computer-Managed Undergraduate Technical Instruction in Industrial Arts

Department / Division Industrial Technology Education, College of Educ.

Institution / Organization The Ohio State University

City, State Columbus, Ohio Zip Code 43210

Director(s) of Activity Donald G. Lux Title Prof. & Chm.

Date Initiated 1973 Date Concluded In progress

Sponsor / Funding Agent None

Descriptors:

Curriculum Models	Methods
Higher Education	Systems Approach
	Laboratory Organization

Purpose / Goals / Objectives of Activity:

1. Create a rationale for and a structure of basic technical performance competencies for first-year pre-service IA teachers.
2. Create a system which provides a computer-managed, self-paced format for laboratory instruction.
3. Reduce redundancy and promote maximum individual gain.

Progress to Date:

The rationale and structure are completed, and the instructional system elements and management system are being produced in selected models of the total system.

Progress to Date (continued):

Plans For the Future:

If the initial models prove to be effective and efficient, the balance of the system will be developed, assuming the operating cost will not be prohibitive.

Project Publications:

None to date.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Progress report, free

Person to Contact Donald G. Lux Office Phone 614-422-7471

Address 200 Welding Engineering Building, 190 W. 19th Avenue,

The Ohio State University, Columbus, Ohio 43210

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Workshops on the Occupational Safety and Health Act

Department / Division: Industrial Education and Technology

Institution / Organization: Eastern Kentucky University

City, State: Richmond, Kentucky Zip Code: 40475

Director(s) of Activity: Dr. Gary Chastain Title: Assoc. Prof.

Date Initiated: Summer & Fall, 1974 Date Concluded: ---

Sponsor / Funding Agent: Eastern Kentucky University

Descriptors:

Professional Courses
Faculty
Supervision
Adult Education
Audio-Visual

Purpose / Goals / Objectives of Activity:

Help industrial arts teachers incorporate OSHA guidelines to their programs.

Progress to Date:

Has conducted several workshops on OSHA.

Progress to Date (continued):

Plans For the Future:

Continue to offer workshops as needed and to incorporate new materials into existing courses.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: General information about workshops.

Person to Contact Dr. Gary Chastain Office Phone 606-622-3325

Address Eastern Kentucky University, Richmond, Kentucky 40475

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Workshops on Metrication and Metrology

Department / Division Industrial Education and Technology

Institution / Organization Eastern Kentucky University

City, State Richmond, Kentucky Zip Code 40475

Director(s) of Activity Mr. Homer Davis Title Assoc. Prof.

Date Initiated Summer, 1974 Date Concluded Summer, 1974

Sponsor / Funding Agent Eastern Kentucky University

Descriptors:

Adult Education

Faculty

General Education

Mathematics

Professional Courses

Purpose / Goals / Objectives of Activity:

Help teachers of industrial subjects upgrade themselves professionally in the area of Metrication and Metrology.

Progress to Date:

Conducted two workshops.

Progress to Date (continued):

Plans For the Future:

Continue to offer workshops as the need arises.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: General information about workshops.

Person to Contact Mr. Homer Davis Office Phone 606-622-3232

Address Eastern Kentucky University, Richmond, Kentucky 40475

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Individualization of a Power & Transportation Technology Program

Department / Division: Department of Industry & Technology

Institution / Organization: Northern Michigan University

City, State: Marquette, Michigan Zip Code: 49855

Director(s) of Activity: Chris M. Olson Title: Instructor

Date Initiated: December, 1973 Date Concluded: Continuing

Sponsor / Funding Agent: None

Descriptors:

Individualized Instruction
Higher Education
Mechanical Power Systems
Objectives
Competencies

Purpose / Goals / Objectives of Activity:

To individualize a Power and Transportation Technology Program permitting use of the open lab concept prescriptive learning, advance placement, through the use of performance objectives and competencies in packaged form.

Progress to Date:

The following courses have been packaged:

1. Power and Mechanical Devices
2. Small Gas Engines
3. General Automechanics
4. Auto Electrical
5. Auto Body & Chassis
6. General Automechanics for Women

Progress to Date (continued):

Plans For the Future:

1. Revise packages based on student feedback and experience.
2. Continue development of a workable management system based on individualization and the use of packages.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Approximately $2 for each package.

Person to Contact Chris M. Olson Office Phone 906-227-2538

Address Dept. of Industry & Technology, Northern Michigan University, Marquette, Michigan 49855

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Curriculum Project for Arts and Crafts

Department / Division Department of Industry & Technology

Institution / Organization Northern Michigan University

City, State Marquette, Michigan Zip Code 49855

Director(s) of Activity Dr. George L. Baker Title Assoc. Prof.

Date Initiated 1973 Date Concluded On-going

Sponsor / Funding Agent Dept. offering with univ. funds and resources

Descriptors:

Individualized Instruction

Objectives

Competencies

Innovative Programs

Arts & Crafts

Purpose / Goals / Objectives of Activity:

An action research project to explore methods of improving an educational delivery system for persons entering an Arts and Crafts class from different disciplines and demonstrating a need for the realization of different objectives. The project attempts: 1) To make a transition to an instructional system with greater individualization of instruction, goals, and evaluation. 2) To improve the relevance of course activities by relating the goals of the program to needs and aspirations of the students identified by the students. 3) To provide a base body of knowledge from which paths of individual exploration are encouraged.

Progress to Date:

The project has been in operation for five semesters and has been in a constant state of change. To date, 60 plus, 15 minute video tapes have been developed which deal with various laboratory and craft skills. The tapes are played back at intervals through the university television network and may be viewed by students at access sites across the campus. Students from five different areas of the campus enroll in the course and each student participates in the identification of goals which meet individual needs; hence, the term differentiated goals. Evaluation is accomplished via an assembly testing technique. Each potential unit of instruction has a test keyed to content covered in the unit. From the total list of unit tests the student is able to select those units which fulfill the needs of his or her prescribed

Progress to Date (continued):

learning objectives. Instruction is supplemented with lectures, demonstrations and laboratory instruction on a continuing basis. A packaged control system is used to provide direction to students and to enable instructors to continuously monitor the progress of the student. A differentiated staffing technique is employed as are the methods of micro-teaching, student research and diagnostic-prescriptive education.

Plans For the Future:

Plans for the future include the development of parallel methods of instruction to augment existing instructional options. In addition, individual video-tape playback units will hopefully be integrated to enable great flexibility in scheduling and to facilitate student access to instruction at the times of greatest need.

Project Publications:

None to date.

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact George L. Baker Office Phone 227-2538

Address Dept. of Industry & Technology, Northern Michigan University,

Marquette, Michigan 49855

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Computer Assisted Evaluation

Department / Division: Industrial Arts

Institution / Organization: University of Northern Colorado

City, State: Greeley, Colorado Zip Code: 80639

Director(s) of Activity: D. L. Jelden Title: Prof. IA

Date Initiated: F-1974 Date Concluded: In Progress

Sponsor / Funding Agent: None-(Staff Study)

Descriptors:

Innovative Program

Test Development

Evaluation-Students

Computerized Instruction

Purpose / Goals / Objectives of Activity:

Determine effectiveness of computer to generate individual tests for electronics students--individualized curriculum and evaluation for Industrial Arts students.

Progress to Date:

In operation--Continual evaluation over 1-2 year period.

Progress to Date (continued):

Plans For the Future:

Adaptation to other curriculum areas in Industrial Arts besides electronics.

Project Publications:

None.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: 50 cents--Cost of xerox for proposal.

Person to Contact D. L. Jelden Office Phone 351-2186

Address University of Northern Colorado, Greeley, Colorado 80639

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Facility Design

Department / Division Department of Industrial Technology

Institution / Organization University of Northern Iowa

City, State Cedar Falls, Iowa Zip Code 50613

Director(s) of Activity Dr. Bro, Dr. Rudisill Title

Date Initiated 1972 Date Concluded 1975

Sponsor / Funding Agent State of Iowa

Descriptors:

Individualized Instruction
Facility Planning
Audio-Visual
General Laboratory
Program Planning

Purpose / Goals / Objectives of Activity:

The purpose of the activity was to develop open, flexible space which would serve present and future departmental curriculum models and at the same time allow the utilization of traditional as well as individualized competency-based instruction.

Progress to Date:

Facility design and construction stage completed. Building is now occupied with laboratories approaching the 100% operational level as of Spring Semester, 1976.

Progress to Date (continued):

Plans For the Future:

Continued research on development of conceptually based courses and individualization of instruction.

Project Publications:

Bro, Ronald D., and Rudisill, Alvin E. "Designing Educational Facilities for the Future." Industrial Arts and a Humane Technology for the Future. Proceedings of 36th Annual Conference of the American Industrial Arts Association. (Washington, D.C. American Industrial Arts Association, 1974) pp. 308-317.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Copies of speeches about facilities available at no charge. Complete plans available on short term loan.

Person to Contact Dr. Alvin E. Rudisill Office Phone 319-273-2561

Address Dept. of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OR-75-27

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Career Planning Function of Selected Practical Arts Programs in Southwest Missouri

Department / Division Industrial Education Department

Institution / Organization Southwest Missouri State University

City, State Springfield, Missouri Zip Code 65802

Director(s) of Activity Lawrence C. Drake
Eugene G. Sherrell Title

Date Initiated Spring, 1974 Date Concluded Pending

Sponsor / Funding Agent RCU, Missouri State Department of Education

Descriptors:

Career Education

Program Planning

Practical Arts

Counseling

Purpose / Goals / Objectives of Activity:

To ascertain what instructional techniques Southwest Missouri secondary youth are being exposed to through practical arts programs that contribute toward individual career planning processes.

Progress to Date:

1. Identified Southwest Missouri schools that have practical arts programs that tend to be successful as feeders to area vocational-technical education programs.
2. Partially completed interviewing the instructors of the above programs in an attempt to ascertain their success factors.

Progress to Date (continued):

Plans For the Future:

1. To analyze data collected, make recommendations, and write a report based upon the data collected.
2. To utilize the data in practical arts teacher education content.

Project Publications:

The published report is to be available to Southwest Missouri practical arts teachers.

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: Unknown

Person to Contact Mr. Glen White, Director Office Phone _____

Address Research Coordinating Unit, State Department of Education,

Jefferson City, Missouri 65101

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Low-Cost Numerical Control Instruction Via Simulation

Department / Division Industrial Technology

Institution / Organization University of Northern Iowa

City, State Cedar Falls, Iowa Zip Code 50613

Director(s) of Activity Douglas T. Pine Title Asst. Prof.

Date Initiated September, 1971 Date Concluded August, 1973

Sponsor / Funding Agent Brodhead Garrett Company

Descriptors:

Numerical Control

Simulation

Instructional Devices

Instructional Materials

Research

Purpose / Goals / Objectives of Activity:

Although educators recognize the need for educational experiences that provide students with an understanding of the industrial and technological nature of our society, research has shown that too often our educational programs are not meeting this need. Concepts such as automation and cybernetics, which have far-reaching social, economic, consumer and occupational implications, are often ignored in our industrial education programs. In an effort to move towards the eradication of this problem, the writer attempted to develop a low-cost means of providing hands-on instruction in the area of numerical control.

Progress to Date:

A 10-lesson, multi-media instructional package was developed including a teacher's guide, handouts, tests, transparencies, charts, and laboratory activities. The initial materials were designed for and experimentally tested at the senior high school level.

To facilitate hands-on experiences during laboratory activities, a N/C simulator was also designed and fabricated. This 2-axis simulator is adaptable to any standard drill press to provide drilling, end milling and plotting capabilities. Students can produce finished piece-parts by feeding their programmed codes into the simulator through the machine control unit. Accuracy of .01 inches is maintained through the use of mechanical counters which provide the student with a digital read-out of X and Y axis movements.

Progress to Date (continued):

The instructional package and simulator are currently being used at the undergraduate level to provide N/C instruction in a machine tools course.

Plans For the Future:

1. Continue to expand on the use of the materials at the undergraduate level.
2. Explore other laboratory areas where simulation has application.

Project Publications:

Pine, D. T. The effects of teaching numerical control concepts via simulator versus non-simulator activities on the achievement, programming proficiency and attitude of high school students. (Doctoral dissertation, The Ohio State University) Ann Arbor, Mich.: University Microfilms, 1974, No. 74-3290.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Research Abstract - no cost.

Information on instructional package by individual request.

Person to Contact Douglas T. Pine Office Phone 319-273-2561

Address Department of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Curriculum Revision Activities at the University of Northern Iowa

Department / Division: Department of Industrial Technology

Institution / Organization: University of Northern Iowa

City, State: Cedar Falls, Iowa Zip Code: 50613

Director(s) of Activity: Staff Title:

Date Initiated: September, 1973 Date Concluded: Continuing

Sponsor / Funding Agent: None

Descriptors:

Curriculum Models

Undergraduate Programs

Competency Based

Conceptually Based

Cluster Approach

Purpose / Goals / Objectives of Activity:

The first phase of this curriculum revision effort is focusing on the undergraduate program. The graduate program will be evaluated and revised upon completion of phase one. Current planning calls for the revised undergraduate course offerings to provide: (1) conceptually-based studies depicting the major systems of industry, and (2) competency-based individualized instruction being coordinated with team teaching.

Progress to Date:

The basic structure for a series of basic theory and basic laboratory courses has been developed and is currently being processed through the University and Board of Regents approval channels. This series of courses will provide the core program for the content areas of communications, power, and production.

Preliminary conceptual models have been developed, reviewed and revised. Work in this area is continuing with the goal of eventually developing an overall departmental conceptual model.

The core program will be implemented Spring Semester, 1976. The development of course syllabi and instructional methodology continues in preparation for implementation.

Progress to Date (continued):

Plans For the Future:

1. Continue conceptual model development.
2. Continue development of competency-based individualized instruction.
3. Implement basic core program Spring, 1976.
4. Develop advanced technical courses for implementation Spring, 1977.
5. Develop new curriculum for the graduate program.

Project Publications:

Rudisill, A. E. Innovations in industrial arts teacher education: curriculum, facilities, methodology. A paper presented at the American Vocational Association Convention, New Orleans, December, 1974.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Copies of above paper available at no cost.

Person to Contact Dr. Alvin E. Rudisill Office Phone 319-273-2561

Address Department of Industrial Technology, University of Northern Iowa, Cedar Falls, Iowa 50613

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Systems Maps for Individual Learning in Orchestrated Systems Program

Department / Division: School of Technology

Institution / Organization: Indiana State University

City, State: Terre Haute, Indiana Zip Code: 47809

Director(s) of Activity: L. W. Yoho Title: Dean, SOT

Date Initiated: 1971 Date Concluded: Continuous

Sponsor / Funding Agent: None to date

Descriptors:

Systems Approach

Instructional Materials

Individualized Instruction

Career Education

Purpose / Goals / Objectives of Activity:

To create "road maps" of industries as a means of charting technical areas and career opportunities in a way that the individual student may exercise maximum control over his learning and experience development. The materials were designed for compatibility with the Orchestrated Systems Program.

Progress to Date:

Materials are designed but have not been validated and tested.

Progress to Date (continued):

Plans For the Future:

Proposal for funded production was submitted.

Project Publications:

Chapter 8 in ACIATE 22nd Yearbook.
NAITTE, Journal of Industrial Teacher Education, Vol. 6, No. 2, Winter, 1969.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Mimeographed

Description - student handbooks $1.00 and $1.75 (Handbooks available from ISU Bookstore only)

Person to Contact L. W. Yoho Office Phone 812-232-6311 Ext. 2278

Address Indiana State University, School of Technology, Terre Haute, Indiana 47809

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Activities and Resources For Manufacturing

Department / Division: Industrial Arts Department

Institution / Organization: Trenton State College

City, State: Trenton, New Jersey Zip Code: 08625

Director(s) of Activity: Dr. J. Russell Kruppa Title: Chairman

Date Initiated: 1970 - Date Concluded: First Ed.-Aug. '74

Sponsor / Funding Agent: Personal

Descriptors:

Undergraduate Programs

Curriculum

Instructional Materials

Senior High School

Manufacturing-Mass Production

Purpose / Goals / Objectives of Activity:

To prepare descriptive materials and examples relating to the various aspects involved in organizing and operating a simulated goods producing enterprise.

Progress to Date:

Completed and published.

Progress to Date (continued):

Plans For the Future:

Development of a more comprehensive text as time is available.

Project Publications:

Activities and Resources For Manufacturing by Dr. J. Russell Kruppa. Copyright 1974. Trenton State College, Trenton, New Jersey.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Softback booklet stapled and punched for use in three-ring binder. Cost: $4.25 plus postage.

Person to Contact Dr. J. Russell Kruppa Office Phone 609-771-2543 609-771-2617

Address Trenton State College, Trenton, New Jersey 08625

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Resource Booklets in Manufacturing

Department / Division Industrial Arts Department

Institution / Organization Trenton State College

City, State Trenton, New Jersey Zip Code 08625

Director(s) of Activity Dr. J. Russell Kruppa Title Chairman

Date Initiated Varies Date Concluded Varies

Sponsor / Funding Agent Personal and Trenton State College

Descriptors:

Senior High School

Curriculum Development

Instructional Materials

Undergraduate Programs

Manufacturing-Mass Production

Purpose / Goals / Objectives of Activity:

To prepare a resource booklet for use in implementing a student enterprise by recording, in booklet form, the actual drawings, time study, stock certificates, etc., used in simulated goods producing enterprises in manufacturing courses at Trenton State College.

Progress to Date:

Completed at end of each course offering.

Progress to Date (continued):

Plans For the Future:

None.

Project Publications:

Titles vary with each course.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Very limited supply. Not commercial published quality. Cost $1.50 for printing and postage.

Person to Contact Dr. J. Russell Kruppa Office Phone 609-771-2543

Address Armstrong Hall, Trenton State College, Trenton, New Jersey 08625

OR-75-34

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Preparing Teachers of Ind. Ed. for Disadv. and Handicapped Children at the Sec. Level (A Model for Curr. Dev.)

Department / Division: Dept. of Ind. Arts, Div. of Ind. Edu. & Tech.

Institution / Organization: Trenton State College

City, State: Trenton, New Jersey Zip Code: 08625

Director(s) of Activity: J. Russell Kruppa, Chm., Ind. Arts; R. G. Thrower & S. Hritz, Curr. Spec.

Date Initiated: January, 1972 Date Concluded: January, 1973

Sponsor / Funding Agent: Bur. of Special Needs & Cooperative Education-Div. of Vocational Educ., State of New Jersey

Descriptors:

Disadvantaged

Curriculum Model

Handicapped

Certification

Senior High School

Purpose / Goals / Objectives of Activity:

1. To ascertain the need for secondary level teachers of industrial education with expertise in working with handicapped and disadvantaged children.
2. To generate a competency based model for use in generating pre-service programs which will prepare teachers qualified for certification in both industrial education and special education.

Progress to Date:

The research and development are complete and the results are found in a final report as titled above.

Progress to Date (continued):

Plans For the Future:

From this model a curriculum has been developed for the Trenton State College undergraduate programs offered by the Industrial Arts Department and Special Education Department.

These programs are now both pending final approval by the College Academic Policies Committee (of this date).

Project Publications:

Preparing Teachers of Industrial Education for Disadvantaged and Handicapped Children at the Secondary Level (A Model for Curriculum Development) A Final Report.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Limited quantity of Final Report available at $1.50 for cost of printing and postage.

Person to Contact Dr. J. Russell Kruppa Office Phone 609-771-2543

Address Armstrong Hall, Trenton State College, Trenton, New Jersey 08625

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Human Resources Development Through Industrial Education

Department / Division Industrial Technical Education

Institution / Organization Arizona State University

City, State Tempe, Arizona Zip Code 85281

Director(s) of Activity J. J. Littrell Title Chairman

Date Initiated September, 1974 Date Concluded Continuing

Sponsor / Funding Agent U.S.O.E.

Descriptors:

Junior High School

Interdisciplinary

Curriculum Development

Purpose / Goals / Objectives of Activity:

To develop an interdisciplinary curriculum which will articulate a program for human resources development through industrial education.

Progress to Date:

1. Program rationale developed.
2. An Institutional Advisory Committee, of interested educators from various disciplines, has been established and meets periodically to provide expertise in various disciplines in support of the program.
3. Program concept for first and subsequent years has been formulated.
4. Various area junior high/middle schools are being screened for selection as pilot school to implement this program.
5. Concept areas have been analyzed and specific disciplines have been identified as principal in each concept area.

Progress to Date (continued):

Plans For the Future:

1. Conduct an In-Service Workshop for teachers of various disciplines from the pilot school; summer 1975.
2. Implementation of pilot (one 7th grade class) program at the selected area junior high/middle school; spring 1976.
3. Expansion of program to all junior high classes at the pilot school.
4. Continual expansion of program throughout initial district, with eventual expansion statewide.

Project Publications:

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

Person to Contact L. J. Pardini Office Phone 602-965-3287

Address Division of Technology, Arizona State University, Tempe, Arizona 85281

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Industrial Arts Woods and Wood Technology Curriculum Guide for Intermediate and Secondary Level Programs in Missouri

Department / Division: Industrial Education Department--Woods Division

Institution / Organization: Southwest Missouri State University

City, State: Springfield, Missouri Zip Code: 65802

Director(s) of Activity: B. Eugene Brightwell Title: Supervisor

Date Initiated: Spring, 1969 Date Concluded: June, 1974

Sponsor / Funding Agent: State Dept. of Education, Missouri

Descriptors:

Woods
Junior High School
Laboratory Based
Innovative Programs
Senior High School

Purpose / Goals / Objectives of Activity:

To formulate a functional comprehensive, curriculum guide to improve woods and wood technology instruction in Missouri's Intermediate and Secondary Level Industrial Arts Programs.

The guide has been designed to aid teachers in establishing course objectives and content, as well as planning teaching methods and an evaluation procedure.

It is intended that the individuals and groups that review and use this publication will find the suggested content, activities and teaching aids presented in a manner that will enable the user to adopt or adapt them in a meaningful manner.

Progress to Date:

Completed and published in June, 1974, the guide has been mailed to each industrial arts instructor in Missouri that teaches a junior high, I.A. program, and/or high school I.A. woods course in a public school.

The completed guide (53 copies) has also been mailed to teachers, educators, and industrialists in the United States and Canada because of their expressed interest in this curriculum guide.

Progress to Date (continued):

Plans For the Future:

The committee would desire that the woods guide be evaluated by a survey in five years to determine if the material is being utilized. Additional process areas and products could be added to the guide to keep it up to date and current with the technological changes in the wood product industries.

Project Publications:

Booklet -- "Wood Technology, Techniques, Processes and Products"

Slide-Tape presentation consisting of 160, 2 x 2 color slides covering the seven areas of the guide. Two tapes, one 52 minutes and the other 73 minutes will allow the user to preview the guide material.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Guide--purchased, rented, or loaned--Brightwell; slide-tape presentation loaned--Oatman; booklet--purchased from SMSU Bookstore for $2.75

Person to Contact B. Eugene Brightwell 314-635-8125
Olan C. Oatman Office Phone 417-831-1561 Ext. 284

Address Brightwell, Supr. Ind. Arts. Ed., State Dept. of Ed., Jefferson Bldg., Jefferson City, MO 65101; Oatman, Assoc. Prof. Ind. Ed., Southwest Missouri State University, Springfield, MO 65802

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity LOOM Instructional System (Project Loom: Learner Oriented Occupational Materials)

Department / Division Industrial Arts Department

Institution / Organization Florida State University

City, State Tallahassee, Florida Zip Code 32306

Director(s) of Activity Ernest G. Berger Title Assoc. Prof.

Date Initiated September, 1970 Date Concluded June 30, 1975

Sponsor / Funding Agent VTAD Division, Dept. of Educ., State of Florida

Descriptors:

Curriculum Development	
Elementary Education	Junior High School
Interdisciplinary	Career Education

Purpose / Goals / Objectives of Activity:

This is an activity-based career awareness program that would be infused into existing elementary curriculum. Basic objectives are: 1) Develop an understanding of the role of career awareness and identify terminology appropriate at the elementary level; 2) Develop unitized instructional materials which would provide teachers with the necessary information and resources to conduct "hands-on" activities in the classroom; 3) To develop teacher competencies needed to effectively infuse LOOM units into their academic curriculum; 4) Develop teacher abilities to use the "tools of the careers" in a classroom situation; 5) Develop a system for Dissemination, Diffusion and Adoption; 6) Publish LOOM materials.

Progress to Date:

The LOOM INSTRUCTIONAL SYSTEM (LIS) has followed the classic model of Concept-Development-Dissemination-Diffusion-Adoption during its 5 years of development. The diffusion phase is continuing with every school district having copies of the materials and ordering more for the 1975-76 school year. All counties have conducted in-service workshops in the effective use of the LIS materials. A "LOOM Demonstration Center" has been activated in central Florida where practicing K-8 teachers from across the state can participate in a day-long, action oriented drive-in workshop with experienced center teachers and their students. The next step is to market the LOOM Product.

Progress to Date (continued):

LIS is now overseas with the U. S. Army Dependent School in Europe as well as under review by the Korean Education Development Institute, Ministry of Education, Seoul, Korea.

One remaining activity is to supply one complete set of LIS materials to all elementary schools in Florida.

Plans For the Future:

Plans are now underway to interest publishers in disseminating the LOOM product on a national and international basis.

Project Publications:

In addition to the 157 units and 111 filmstrips the following items have been produced.

1. Master List of LOOM Units & Background Data (Project: LOOM).
2. Teacher Referenced System for Evaluating the Effectiveness of Career Education Instructional Materials and Programs (Assessment Instrument Package).
3. A Guide to Using LOOM, Vol. 1 Orientation; Vol. 2 Using LOOM.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Master List of LOOM Units & Background Data (Project LOOM) plus a free sample unit. LOOM Orientation Workshops and "Tools of the Careers" Workshops available upon request-Honorarium, travel expenses.

Person to Contact Ernest G. Berger Office Phone 904-644-6418

Address Bldg. 218, Industrial Arts Department, Florida State University, Tallahassee, Florida 32306

OR-75-38

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Competency Based Beginning Soft Materials Processing

Department / Division Engineering Technology/Industrial Education

Institution / Organization Lake Superior State College

City, State Sault Ste. Marie, Michigan Zip Code 49783

Director(s) of Activity David Leo Lickteig Title Coordinator

Date Initiated September, 1974 Date Concluded December, 1974

Sponsor / Funding Agent Local school

Descriptors: Competency Based

Undergraduate Programs Materials Processing System

Competencies

Purpose / Goals / Objectives of Activity: The learner will acquire a familiarity with various woods, their structure, wood products, and wood resource material. The learner will acquire part of the scientific and technical knowledge and skill needed in order to be able to efficiently and effectively use the material wood as a medium in the teaching of industrial arts. The learner will learn to recognize and solve problems related to wood, wood processing, and wood finishing through the appropriate use of materials, processes, and tools. The learner will personally experience several of the instructional methods used in the total industrial arts program. Lastly, a learner will develop an appreciation and sensitivity toward safety as a concept and also toward safety hazards and the prevention of accidents.

Progress to Date:

Progress to Date (continued):

Plans For the Future:

The program was reviewed with student input after the completion of the '74 presentation and with these data as a basis the program is now under appropriate revisions for the scheduled delivery time of the fall of 1975.

Project Publications:

None.

Available information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Interested party is welcome to come to LSSC and review the instructor's guide and related materials.

Person to Contact David Leo Lickteig Office Phone 906-632-6841 Ext. 370

Address Ontario Hall, Lake Superior State College, Sault Ste. Marie, Michigan 49783

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Career Education - Strategies for Methods Teachers

Department / Division Higher Education

Institution / Organization Eastern Washington State College

City, State Cheney, Washington Zip Code 99004

Director(s) of Activity Glen O. Fuglsby Title Professor

Date Initiated September, 1973 Date Concluded June, 1974

Sponsor / Funding Agent St. of Washington and Eastern Washington St. Col.

Descriptors:

Undergraduate Programs

Career Education

Innovative Programs

Professional Courses

Purpose / Goals / Objectives of Activity:

1. Develop strategy for infusing Career Education concepts into methods class or other classes.

2. Implement strategy and prepare a refined strategy statement.

Progress to Date:

Initial strategies have been developed. The refined statements are due April 1, 1975.

Progress to Date (continued):

Plans For the Future:

Project Publications:

Available Information:

Information is available upon written request: ☐ YES ☐ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Glen O. Fuglsby Office Phone 509-359-2437

Address Industrial Education & Technology, Cheney Hall, Eastern Washington State College, Cheney, Washington 99004

OR-75-40

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Career Education - Strategies for Teacher Education

Department / Division Higher Education

Institution / Organization Eastern Washington State College

City, State Cheney, Washington Zip Code 99004

Director(s) of Activity Glen O. Fuglsby Title Professor

Date Initiated September, 1973 Date Concluded June, 1974

Sponsor / Funding Agent St. of Washington & Eastern Washington St. Col.

Descriptors:

Higher Education
Career Education
Program Planning
Undergraduate Programs
Innovative Programs

Purpose / Goals / Objectives of Activity:

1. To investigate the status of career education in the pre-service and the in-service teacher training programs of four-year teacher preparing institutions.
2. To develop initial strategies for incorporating career education into many teacher-training disciplines of preparing institutions.
3. To disseminate refined strategy plans.

Progress to Date:

This conference consisted of two inter-institutional meetings and developmental activities at the home institutions. The participants were selected "strategy teams" from each of Washington's four-year public institutions involved in the preparation of teachers. Representatives from the Coordinating Council for Occupational Education and the State Superintendent of Public Instruction were in attendance at these meetings.

Under the leadership of Dr. Kenneth B. Hoyt, each strategy team developed a written institutional strategy plan for infusing career education concepts in the teacher preparation programs at their home institutions. After these initial strategy plans were reviewed by all of the strategy teams and Dr. Hoyt, each team returned to their

Progress to Date (continued):

home institution for consideration of their strategy plan within their own college or university. At the second inter-institutional meeting of the strategy teams, each team presented their revised strategy plan for review by the other teams and Dr. Hoyt.

Plans For the Future:

Career Education - Strategies for Methods Teachers

Project Publications:

Summary of Project, "Career Education - Strategies for Teacher Education"

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Limited quantities - Booklet - 20 pages, $1.50

Person to Contact Glen O. Fuglsby Office Phone 509-359-2437

Address Industrial Education and Technology, Cheney Hall, Eastern Washington State College, Cheney, Washington 99004

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Planning for the Future: The Industrial Arts-Technology Program

Department / Division: Industrial Arts Department

Institution / Organization: Fitchburg State College

City, State: Fitchburg, Massachusetts Zip Code: 01420

Director(s) of Activity: Dr. Everett N. Israel Title: Cur. Coord.

Date Initiated: November, 1972 Date Concluded: On-going

Sponsor / Funding Agent: Fitchburg State College

Descriptors:

Cluster Approach

Curriculum Development

Curriculum Models

Innovative Program

Undergraduate Program

Purpose / Goals / Objectives of Activity:

Since 1972, the Industrial Arts faculty has been in the process of completely revising their undergraduate program. The purpose of the curriculum development has been to formulate and implement a technology based program. Students in the program may elect to major in Industrial Arts Education, Industrial Science, or other interdepartmental majors offered. The program will be housed in a new six million dollar facility that will be ready for occupancy during the summer of 1975.

Progress to Date:

Thus far the faculty have formulated a philosophical viewpoint and a curriculum model. Presently they are identifying learning experiences related to (a) the general study of technology, (b) each of the technical thematic areas, (c) the professional educational sequence, (d) the industrial arts sequence, and (e) the industrial science sequence. Each of the technical areas was selected based upon man's major areas of technical endeavor (materials, energy, transformation, and communication).

All students enrolled in the program are required to enroll in the Common Core. Emphasis is placed upon students acquiring a general understanding of technology and conceptualizing each of the technical thematic areas. After the students have completed the Common Core, they select a major and an area of specialization within their major.

Progress to Date (continued):

Next the students identify goals they wish to accomplish related to their major. To accomplish their goals the students elect modular, mini, and full length courses through the assistance of their advisors. Special emphasis is placed upon students developing in-depth broad category competencies related to their area or areas of specialization. These broad category competencies were identified by the model used to organize subject matter related to each thematic area.

Plans For the Future:

Within the next four years, the program will be implemented in the new facilities. During the first year, the Common Core will be implemented. Second level courses related to each of the thematic areas will be offered during the second year. During the third and fourth years, the modular and mini courses will be offered. Also the professional sequences will be implemented.

Project Publications:

At present a series of publications are in the process of being developed. For further information write Dr. Everett N. Israel, Curriculum Coordinator, Industrial Arts Department, Fitchburg State College, Fitchburg, Massachusetts 01420

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

_____

_____

Person to Contact: Dr. Everett N. Israel Office Phone _____

Address Industrial Arts Department, Fitchburg State College, Fitchburg,

Massachusetts 01420

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Vocational and Applied Arts Education CBTE Project

Department / Division Vocational and Applied Arts/Teacher Educ. Div.

Institution / Organization Wayne State University, College of Education

City, State Detroit, Michigan Zip Code 48202

Director(s) of Activity Fred S. Cook Title Director

Date Initiated July, 1971 Date Concluded June, 1975

Sponsor / Funding Agent Michigan Department of Education

Descriptors:

Competency-Based	
Professional Courses	Systems Approach
Curriculum Models	Eval.-Criterion Referenced

Purpose / Goals / Objectives of Activity:

To establish a competency-based program for the professional preparation of teachers of vocational and applied arts. The design consists of an instructional system and a supporting management information system. Program is field-oriented.

Progress to Date:

Completed design includes: competencies, performance objectives for 44 quarter hours of course work, criterion-referenced tests for each performance objective, modules for selected performance objectives, follow-up plans; the field component includes specified field experiences with evaluation procedures, procedures for clustering intern teachers and pre-interns in target centers, and a supporting in-service training program; the management information includes six computerized sub-systems--admissions, class scheduling, faculty load, instructional field experiences, program evaluation.

Progress to Date (continued):

Plans For the Future:

To complete reliability and validity studies for each test item.
To implement the program follow-up and evaluation procedures.
To complete additional instructional modules.

Project Publications:

#1 Competency-Based Teacher Education Series, #2 Competencies and Performance Objectives, #3 Two VAE System Models, #4 Designing a CBTE Instructional System: A VAE Case History, #5 Designing a CBTE Management Information System, #6 Competency and Performance, Objective Hierarchies, #7 The VAE Pre-Intern Field Experiences: A Model for CBTE Field-Oriented Programs, Intern Teaching Handbook.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Write for specific price information.

Person to Contact Dr. Rita C. Richey Office Phone 577-0927

Address Institute for R & D of CBTE Programs, 249 Education, Wayne State University, Detroit, Michigan 48202

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Project CBE

Department / Division: Vocational and Applied Arts/Teacher Edu. Div.

Institution / Organization: Wayne State University, Col. of Education

City, State: Detroit, Michigan Zip Code: 48202

Director(s) of Activity: Tommie U. Johnson Title: Assoc. Prof.

Date Initiated: September, 1974 Date Concluded: January, 1975

Sponsor / Funding Agent: Michigan Department of Education

Descriptors:

In-Service Education	Eval.-Criterion Referenced
Competency Based	Individualized Instruction
	Instructional Materials

Purpose / Goals / Objectives of Activity:

To design instructional materials for in-service training regarding the key tools used in designing competency-based education programs.

Progress to Date:

The following materials have been field tested, revised and printed:

Modules:
- Program Goals
- Performance Objectives
- Objective-Referenced Testing
- Selecting Delivery Systems
- Follow-up

Progress to Date (continued):

Slide Tapes: CBE: A Step Towards Excellence
The Program Goal Approach to CBE
Performance Objectives: Tools for Successful Learning and Teaching
Classroom Testing CBE Style

Transparencies

Instructor's Guide

Plans For the Future:

To be used for in-service training of Michigan Vocational Education Teachers.

Project Publications:

See products above.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Write for specific cost information.

Person to Contact Dr. Tommie U. Johnson Office Phone 577-1803

Address Institute for R & D of CBTE Programs, 421 Education, Wayne State University, Detroit, Michigan 48202

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Sheet Metal Job Assignment Simulator

Department / Division: Industrial Education Department

Institution / Organization: Southwest Missouri State University

City, State: Springfield, Missouri Zip Code: 65802

Director(s) of Activity: Dr. Jerry D. Routh Title: Assoc. Prof.

Date Initiated: October, 1973 Date Concluded: May, 1974

Sponsor / Funding Agent:

Descriptors:

Drafting/Drawing
Sheet Metal
Instructional Devices
Simulation
Problem Solving

Purpose / Goals / Objectives of Activity.

To design a simulator which would provide a more realistic way of assigning problems to drafting students learning how to draw intersections and developments. The device must be portable and must simulate actual on-the-job assignments.

Progress to Date:

After the initial simulator was designed and constructed, secondary school teachers in the area constructed simulators for sheet metal classes in vocational schools.

The simulator allows the teacher to set up assignments physically rather than to rely on pictorial and orthographic type assignments provided in textbooks.

As students utilize the simulator they are required to design the transition piece, make their own measurements, draw their own orthographic views, and develop a pattern. The student cuts out the pattern, completes the transition piece and uses the simulator to check the accuracy of his solution.

Progress to Date (continued):

The simulator has been successful beyond the expectations of the original plans. Not only has the simulator provided more realistic assignments but has also been a very effective motivational aid.

Plans For the Future:

Redesign the simulator to make it easier for students to assemble their transition pieces and check the accuracy of their solutions.

Publish a magazine article showing how the simulator works and how similar devices can be constructed.

Project Publications:

None at this time.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Drawing and pictures of the simulator

Person to Contact Dr. Jerry D. Routh Office Phone 417-831-1561 Ext. 237

Address Southwest Missouri State University, Springfield, Missouri 65802

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Activities for Career Teachers to Individualize Occupational Needs of Students (ACTIONS) Project

Department / Division: Occupational Teacher Education Program

Institution / Organization: University of Delaware

City, State: Newark, Delaware Zip Code: 19711

Director(s) of Activity: Nevin R. Frantz, Jr. Title: Assoc. Prof.

Date Initiated: January 6, 1975 Date Concluded:

Sponsor / Funding Agent: EPDA Funds

Descriptors:

- Curriculum Development
- Individualized Instruction
- Competency Based
- Systems Approach
- In-Service Education

Purpose / Goals / Objectives of Activity:

To provide selected in-service industrial and technical education teachers (Grades 7-14) with competencies in developing, implementing, and evaluating an individualized instructional system.

Progress to Date:

Fifteen industrial and technical education teachers enrolled in a five-week in-service course which prepared them to develop, operate, and evaluate an individualized instructional system in their area of instruction. After completing the workshop, the prepared instructional modules were field tested with students and revised in their respective schools under the supervision of a teacher educator. The finalized instructional modules were then disseminated to other participating teachers in the project.

Progress to Date (continued):

Plans For the Future:

Projected plans call for expanding the number of participating teachers and concentrate on one area of instruction in order to articulate program design from junior high school through post-secondary technical education.

Project Publications:

Instructional Modules

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Information describing project plus examples of developed modules

Person to Contact Nevin R. Frantz, Jr. Office Phone 302-738-2315

Address Occupational Teacher Education, Rm. 206 Willard Hall Building, University of Delaware, Newark, Delaware 19711

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Adult Education - General Welding

Department / Division Industrial Education

Institution / Organization Northwestern Oklahoma State University

City, State Alva, Oklahoma Zip Code 73717

Director(s) of Activity Billy R. Riddle Title Metals Teacher

Date Initiated _____ Date Concluded _____

Sponsor / Funding Agent NA

Descriptors:

Welding

Adult Education

Purpose / Goals / Objectives of Activity:

To provide a basis for the development of welding skills as needed in the area by those in the agriculture industry.

Progress to Date:

This course is designed for a nine week period meeting two nights a week. Presently we have completed half of the course.

Primarily the course consists of the various aspects of arc welding, oxygen acetylene welding and cutting. The course has been very successful as it has immediate application and we have had a very good response to its offering.

Progress to Date (continued):

Plans For the Future:

We will be offering the course on a yearly basis at approximately the same time of the year as this is the most convenient time for those taking the course.

Project Publications:

NA

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: NA

Person to Contact NA Office Phone NA

Address

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Technology for Children - Teacher Preparation - Special Education and Elementary Education

Department / Division Industrial Arts

Institution / Organization Trenton State College

City, State Trenton, New Jersey Zip Code 08625

Director(s) of Activity Dr. Robert Weber, Mr. Conrad Johnson Title Asst. Prof.

Date Initiated Summer 1972; Summer 1973; Summer 1974 Date Concluded Fall 1972; Fall 1973; 1974

Sponsor / Funding Agent Education Professions Development Act

Descriptors: Special Education, Elementary Education, In-Service Education

Purpose / Goals / Objectives of Activity:

An in-service summer workshop designed to assist teachers in the use of tools, materials and techniques with elementary school children.

Progress to Date:

Program has been conducted over the past three summer sessions. All workshops have been filled. A follow-up questionnaire indicates that a large percentage of workshop activities are being implemented in the classroom.

Progress to Date (continued):

Plans For the Future:

1. Conduct additional mini workshops on technological topics of interest to in-service, K-6 teachers.
2. Develop a system whereby college students can work with in-service K-6 teachers and elementary school children in the area of technology.

Project Publications:

Final reports submitted in 1972, 1973, and 1974.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: 1972 Final Report free while quantities last.

Person to Contact Dr. Robert D. Weber Office Phone 609-771-2536

Address Trenton State College, Armstrong Hall #16, Trenton, New Jersey 08625

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Task Force Production Method of Teaching Industrial Arts, K-16

Department / Division Industrial Education

Institution / Organization Washington State University

City, State Pullman, Washington Zip Code 99163

Director(s) of Activity Dr. Merrill M. Oaks Title Asst. Prof.

Date Initiated Fall, 1973 Date Concluded On-going

Sponsor / Funding Agent Washington State Univ., College of Education

Descriptors:

Mass Production

Curriculum Model

Undergraduate Programs

Elementary Education

Senior High School

Purpose / Goals / Objectives of Activity:

The Task Force Production Method (TFP) of teaching industrial arts education was developed to provide students with the opportunity to (1) work together as a small team for the achievement of common goals, (2) become familiar with contemporary industrial production methods, e.g., team production method developed by Volvo, Saab and Fiat, (3) develop group process, and (4) simulate management and labor roles of industry.

Progress to Date:

The TFP has been used extensively during the past two year period principally at the middle school and higher education levels. Experimental programs were developed in the areas of woods and metals. Results to date indicate enthusiastic acceptance of TFP by both students and teacher. Particular contributions, as cited by classroom teachers, are: (1) group interaction, (2) product, (3) role playing, and (4) knowledge of industry.

Progress to Date (continued):

Plans For the Future:

A continuing dialogue with Volvo of Sweden promises improvement of the TFP method. Currently, plans are underway to implement the method at the elementary and senior high levels.

Project Publications:

Article entitled "Task Force Production," Industrial Arts and a Humane Technology for the Future, Representation Addresses and Proceedings of the American Industrial Arts Association, 36th Annual Conference, Seattle, Washington, 1974. American Industrial Arts Association, 1201 16th St. S.W., Washington, D.C. 20036

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Article which explains content and method. Included are graphic illustrations depicting industrial and classroom components. $1.00

Person to Contact Dr. Merrill M. Oaks Office Phone 509-335-5375

Address College of Education, Cleveland Hall, Washington State University, Pullman, Washington 99163

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Performance-Based Undergraduate Industrial Arts Education Program

Department / Division: Vocational and Adult Education

Institution / Organization: Florida International University

City, State: Miami, Florida Zip Code: 33144

Director(s) of Activity: Dr. A. Dean Hauenstein Title: Professor

Date Initiated: 1972 Date Concluded: On-going

Sponsor / Funding Agent: None

Descriptors:

Program Planning
Curriculum Development
Professional Courses
Competencies
Innovative Programs

Purpose / Goals / Objectives of Activity:

Goals

1. Development and implementation of a two year (90 quarter hour upper division) performance-based program in industrial arts education.
2. To increase effectiveness and efficiency of industrial arts teachers in construction, manufacturing, graphic communications, power, materials processing, and research and development.
3. To increase effectiveness and efficiency of IA teachers in course, unit, and lesson planning, interactive and non-interactive--instructional techniques, evaluation and professionalism.

Progress to Date:

Development and implementation of field based program, instructional modules, criterion referenced assessment, self paced instruction, supervision, recruitment, advisement.

Progress to Date (continued):

Plans For the Future:

Continuation of PBE program, evaluation, and modification, of program as resources, conditions and feedback indicate.

Project Publications:

Module packets for each course (15 courses)

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: University catalog available.

Person to Contact Dr. A. Dean Hauenstein Office Phone 305-552-2711

Address Florida International University DM 487A, Miami, Florida 33144

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Industrial Arts Education Program Leading to Industrial Arts Certification for Vocational Industrial Education Teachers

Department / Division Vocational and Adult Education

Institution / Organization Florida International University

City, State Miami, Florida Zip Code 33144

Director(s) of Activity Dr. A. Dean Hauenstein Title Professor

Date Initiated Spring, 1975 Date Concluded On-going

Sponsor / Funding Agent None

Descriptors: Junior High School

Curriculum Development Professional Courses

Competencies

Purpose / Goals / Objectives of Activity:

Goals

To provide I.A. teacher education to facilitate certification in at least two of six areas of industrial arts along with essential professional courses. To encourage vocational teachers to become fully certified in I.A. To reduce proliferation of temporarily certified (out of field) vocational industrial teachers in junior high pre-vocational programs.

Progress to Date:

Plans developed for 1975 Summer program in I.A. and professional courses, and on-the-job supervision, schooling, and teaching evaluation throughout the 1975-76 school year.

Progress to Dat[illegible]continued):

Plans For the Future:

If successful--continuation of the program.

Project Publications:

None

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Ditto sheet program plan.

Send self-addressed stamped-envelope.

Person to Contact Dr. A. Dean Hauenstein Office Phone 305-552-2711

Address Florida International University, DM Building Room #487B,

Tamiami Trail, Miami, Florida 33144

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Unit Preparation for Industrial Arts Teacher Education

Department / Division Industrial Education and Technology

Institution / Organization University of Maine at Portland-Gorham

City, State Gorham, Maine Zip Code 04038

Director(s) of Activity John Mitchell Title Professor

Date Initiated January, 1973 Date Concluded June, 1974

Sponsor / Funding Agent Personal

Descriptors:

Higher Education

Individualized Instruction

Course Unit

Curriculum Development

Purpose / Goals / Objectives of Activity:

To provide pre- and in-service students individualized instruction, using MUPAKS, in developing units for teaching a contemporary program of industrial arts based upon industry and technology.

Progress to Date:

Eight MUPAKS were completed in July 1973 and were tested during the fall and spring semesters, 73-74, with students in curriculum courses. Revisions based upon student evaluations and feedback are in process. Additional media components are being considered and developed to provide other learning options.

Progress to Date (continued):

Plans For the Future:

The MUPAKS will be printed in final form and will become available for wider distribution.

Project Publications:

I - What Is the Unit
II - Title of Unit
III - Scope
IV - Objectives and Strategies
V - Approach
VI - Lessons to be Taught
VII - Resource Materials and Laboratory Hardware
VIII - Unit Evaluation

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact _____ Office Phone _____

Address _____

_____

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Competency Based Teacher Education Program - Industrial Arts

Department / Division: Division of Technology

Institution / Organization: Fairmont State College

City, State: Fairmont, West Virginia Zip Code: 26554

Director(s) of Activity: Dr. James Hales Title: Director

Date Initiated: September, 1974 Date Concluded: ---

Sponsor / Funding Agent: Fairmont State College

Descriptors:

Competency Based

Behavioral Objectives

Higher Education

Undergraduate Programs

Purpose / Goals / Objectives of Activity:

All courses, required and/or elective, offered by the Division in all curricular programs, i.e., industrial arts education and engineering technology will be competency based.

Progress to Date:

Stage 1 - Curriculum revision completed by December 1, 1974.
Stage 2 - First draft of all industrial arts course competencies--March 17, 1975.
First draft of all engineering technology course competencies--March 30, 1975.
Stage 3 - Revision and refinement of all course competencies--April 30, 1975.
Stage 4 - Preparation of instructional materials for all courses--August 15, 1975.
Stage 5 - Implementation first semester 1975-76.

Progress to Date (continued):

Plans For the Future:

The entire program will involve on-going evaluation. Complete restudy and necessary revision during Summer 1976.

Project Publications:

None

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Copies of course competencies as available.

Person to Contact Dr. James Hales Office Phone 304-367-4156

Address Division of Technology, Fairmont State College, Fairmont, West Virginia 26554

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Learning Experiences in Technology Project

Department / Division Industrial Education

Institution / Organization Eastern Michigan University

City, State Ypsilanti, Michigan Zip Code 48197

Director(s) of Activity Paul Kuwik Title Assoc. Prof.

Date Initiated August, 1971 Date Concluded September, 1974

Sponsor / Funding Agent Michigan Department of Education

Descriptors: Career Education

Elementary Education Curriculum Development

Junior High School

Purpose / Goals / Objectives of Activity:

The Learning Experiences in Technology project has established goals which will be accomplished by the end of the pilot three-year funding period. The project will: (1) teach knowledges, attitudes, and skills, using a methodology which will evolve from and be integrated with the existing school curriculum; (2) include the involvement of the total community: parents/people resources, occupational role models, and physical resources; (3) expose students to the identified concepts of technology and career education; (4) involve the total school staff in the development and implementation of a model which could be used by other school districts; and (5) help students to understand and deal with the social, political, economic, and educational aspects of modern technology.

Progress to date:

Students - More than 5,000 elementary and 1,600 junior high school students have participated in the project during the three year funded phase. Currently there are 2,600 elementary and 1,000 junior high school student participants. These students are actively involved in over 450 Integrated Teaching Units. Each unit integrates academic and career education and technology objectives, involves a role playing experience, involves an activity centered approach to learning and involves the assistance of parents and a community representative in either assisting with the supervision of students, or in discussing their career role. In addition, a field observation is also an

Progress to Date (continued):

important element in a teaching unit. Our students have participated in 100 field observations this school year.

Teachers - There are currently 105 volunteer elementary teachers from 15 schools and 33 teachers and counselors for the four junior high schools who are participating in Project LET. Each of these teachers has agreed to produce and/or implement at least four teaching units during the course of the school year.

Parents and Community - Over 400 parents and 140 community representatives have assisted project teachers by discussing their career roles with students. There are two basic purposes for involving parents and community people in the program: (1) parents and community will be more supportive of schools if they become involved in and have a positive experience with students and teachers in the classroom; and (2) parents and community representatives have a great deal of expertise that is readily available to broaden student experiences.

Plans For the Future:

Project Publications:

The Learning Experiences in Technology K-6 Guide for Implementation, $3.00.

The Learning Experiences in Technology 7-8 Guide for Implementation, $3.00.

Integrated Teaching Handbook K-2, $10.00; Integrated Teaching Handbook 3-4, $10.00; Integrated Teaching Handbook 5-6, $10.00.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: See above

Person to Contact Paul Kuwik Office Phone 313-487-4330

Address 122 Sill Hall, Eastern Michigan University, Ypsilanti, Michigan 48197

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Computer Graphics

Department / Division Industrial Education

Institution / Organization Eastern Michigan University

City, State Ypsilanti, Michigan Zip Code 48197

Director(s) of Activity Jerald A. Griess Title Assoc. Prof.

Date Initiated January, 1974 Date Concluded Continuing

Sponsor / Funding Agent Supplemental Title VI Higher Education

Descriptors: Communication Systems

Computer

Graphic Communications

Purpose / Goals / Objectives of Activity:

At this point in time, perhaps no other technology in the engineering field is changing as rapidly or as drastically as computer usage. Computer graphics is in the forefront of this activity, being increasingly employed in many different fields. Some of the principal uses for computer graphics include architecture, automotive design, civil engineering, engineering drawing, industrial plant design and structural design and analysis.

The objectives of computer graphics are: 1. to provide a broad view of computer graphics technology; 2. to provide instruction in the computer language (FORTRAN IV) used in graphics; 3. to present the opportunity to use computer display terminals for the solution of graphic problems; 4. to encourage students to pursue this field as an employment opportunity.

Progress to Date:

In December 1973 a Tektronix 4010-1 Computer Display Terminal was leased. In January of 1975 a similar terminal was purchased. This gives us two terminals for the exclusive use of graphics students. A total of 60 students have enrolled in the course since January 1974. In addition, 16 students have enrolled in a "directed study" course to pursue advanced work in computer graphics. Both of the students who graduated and sought employment in this field were employed.

The instructor has been in touch with industries in the area and

Progress to Date (continued):

in addition to visits and conferences, has provided consultations to three industries during the initiation of computer graphics capabilities.

Plans For the Future:

A Program Revision Request has been approved by EMU Regents and has been submitted to the State Legislature for funding. This request would provide for substantial additional equipment and the implementation of a computer graphics concentration within the Industrial Technology Degree Program. Also, more computer graphics applications will be provided within the industrial education courses.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Individual response.

Person to Contact Jerald A. Griess Office Phone 313-487-4330

Address 122 Sill Hall, Department of Industrial Education, Eastern Michigan University, Ypsilanti, Michigan 48197

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: The Development of a Career Education Taxonomy for Grades K-12

Department / Division: Department of Industrial Education

Institution / Organization: Eastern Michigan University

City, State: Ypsilanti, Michigan Zip Code: 48197

Director(s) of Activity: Paul Kuwik Title: Assoc. Prof.

Date Initiated: August, 1974 Date Concluded: June, 1975

Sponsor / Funding Agent: Michigan, Department of Education

Descriptors:

Career Education

Instructional Materials (Media)

Purpose / Goals / Objectives of Activity:

To develop, field test and revise a taxonomy of career development concepts and objectives appropriate for K-12 infusion into general education programs.

Progress to Date:

An initial taxonomy of concepts, goals and performance objectives of career development had been developed by a team of teachers, administrators and university staff. This taxonomy is currently being field tested in curriculum development modules by 180 K-6 teachers within four school districts in southeastern Michigan. These teaching units, often pilot tested, will be revised and made available to public school staffs throughout the state.

Progress to Date (continued):

Plans For the Future:

This curriculum model, when developed, will be used as a model for infusing career education throughout the state of Michigan.

Project Publications:

Michigan Department of Education, Career Education, A Reference Guide to Goals and Performance Indicators: Michigan Career Development, 1974.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Paul Kuwik Office Phone 313-487-4330

Address Eastern Michigan University, Sill Hall, Ypsilanti, Michigan 48197

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Packaging of Behavior Based Teaching Skills for Industrial Arts

Department / Division: Industrial Education Department

Institution / Organization: University of Maryland

City, State: College Park, Maryland Zip Code: 20742

Director(s) of Activity: Dr. Lowell Anderson Title: Assoc. Prof.

Date Initiated: Summer, 1972 Date Concluded: on-going

Sponsor / Funding Agent: University of Maryland Graduate School and the Maryland State Dept. of Education, Voc. Div.

Descriptors:

Instructional Materials (Media)

Professional Courses

Competency Based

Competencies

Methods

Purpose / Goals / Objectives of Activity:

The purpose was to design an instructional package using teaching behavior skills of practitioners as multi-modeling video-tape models for persons learning to teach. The package included terminology, specific skills, modeling tapes, micro-teaching and self-evaluation of teaching behavior. Video-tape equipment is used extensively in the package.

Progress to Date:

The package on demonstration methods has been in use for the past three years and found to be very effective. Research data has been accumulated and reported on the cognitive and performance components of students subjected to packaged methods and those subjected to conventional teaching strategies.

A package on seminar methodology has been in the process of development for the past two years. Preliminary field testing has not been as positive as desired. One of the primary factors is the low use of seminar as a teaching method by teachers in the industrial and vocational laboratories. Implementation of the concept has been extremely slow.

Progress to Date (continued):

Additional packages on lecture, simulation, conferencing and discipline have been given some consideration but are still in the planning stages.

Plans For the Future:

Continue to develop the packages in the defined teaching methods. Field and classroom testing shall be continued as progress is made in designing the packages.

A second and critical component is determination of retention and learner effect as a result of teacher preparation. Most recently, some work has begun on questioning strategy.

Project Publications:

Anderson, Lowell, "Intern's Perception of the Transfer-ability of Pedagogic Behaviors," Journal of Industrial Teacher Education, Summer, 1974.

Anderson, Lowell and Joe Yabu, "Individualized Methods: A Systematized Approach in Teacher Education," Man/Society/Technology (January 1974), 120-123.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Dr. Lowell D. Anderson Office Phone 301-454-2344

Address J.M. Patterson Building, University of Maryland, College Park, Maryland 20742

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Competency-Based Instruction in Industrial Ed:
A Developmental Curriculum Project

Department / Division Department of Industrial Education

Institution / Organization Eastern Michigan University

City, State Ypsilanti, Michigan Zip Code 48197

Director(s) of Activity Dr. Gerald L. Jennings Title Professor

Date Initiated September, 1973 Date Concluded In Progress

Sponsor / Funding Agent Department of Industrial Education

Descriptors:

Competency-Based | Curriculum Development

Purpose / Goals / Objectives of Activity:

To provide a competency-based instructional system for the preparation of teachers in industrial education.

Progress to Date:

A five-phase developmental program was implemented in the Fall, 1973, to provide the desired competency-based instructional system. A series of staff in-service and work sessions have been conducted since that time to promote faculty involvement in the design and writing of instructional materials to achieve the primary goals of a competency-based program. With the assistance of consultants from industry and universities where similar projects have been completed, the basic elements of the program model have been developed.

The original timetable for completion of the project has been altered to provide more time for preparation of instructional materials. The reason for this, as much as anything, has been the preference to involve the entire staff in the study and development of the program.

Progress to Date (continued):

The staff has been organized into work teams with specified leaders who work as a team in planning and directing each step of the project. Monthly curriculum work sessions are conducted under the leadership of the team leaders. These meetings may be either joint sessions with all faculty participating together, or individual team meetings. With the beginning and ending of any major part of the project, the faculty as a whole provide their input and reactions. From there each team is able to do its own work in completing details.

At the present, the major components completed include the taxonomy for the body of knowledge that will serve as the reference for instructional content, the definitions for the elements in this taxonomy, and the generalized statements of competencies that should be demonstrated by the teacher of industrial education. The competency statements refer only to those in the technical skills and knowledge area of professional functions.

Plans For the Future:

The generalized competency statements will be reviewed by the total staff to determine the extent of consistency and continuity implied in the whole package of statements. The requirements for instruction to satisfy the needs defined in the statements will be specified. Then, selected instructional models will be developed, tried and tested following the guidelines of the new competency-based program design. Much more detailing of competency statements will have to be completed during this time as well, but through the 1975-76 academic year it is hoped that several sample courses will be implemented following the new structural pattern.

Project Publications:

None at this time

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Dr. Gerald L. Jennings Office Phone 313-487-4330

Address Department of Industrial Education, Eastern Michigan University, Ypsilanti, Michigan 48197

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Professional Semester

Department / Division Department of Industrial Education

Institution / Organization Eastern Michigan University

City, State Ypsilanti, Michigan Zip Code 48197

Director(s) of Activity Dr. Gerald L. Jennings, Professor
Dr. Harold Padelford Title Assoc. Prof.

Date Initiated Fall, 1972 Date Concluded Continuing

Sponsor / Funding Agent Eastern Michigan University

Descriptors:

Student Teaching

Professional Courses

Methods

Purpose / Goals / Objectives of Activity:

Program objectives for the professional semester in industrial education focus on: (1) reinforcement of cognitive perceptions of teaching processes, (2) encouraging development of a positive sense of "self" and teaching and the role of the teacher, and (3) developing skills related to the teaching process in industrial education, in particular.

Progress to Date:

The professional semester was implemented in the Fall semester, 1972, as an experimental program to improve the quality and character of the student teaching experience for the student in industrial teacher education. After a two-year trial, it was evaluated and gained approval from the university administration as an on-going instructional system under the sponsorship of the Department of Industrial Education. It is the only program of its type on campus, and involves a coordinated effort between the Department of Industrial Education and the Student Teaching Office of the College of Education.

Basically, the Department of Industrial Education assumes all responsibility for placing and supervising its student teachers. Students participate in student teaching in area secondary schools for one semester while studying instructional methodology, curriculum

Progress to Date (continued):

development and program implementation procedures under the direction of two departmental faculty members. These faculty, working as a team, provide supervision and perform the teaching of the classes that involve only department student teachers. Students are enrolled in a 14 semester-hour block of courses which includes the eight-hour student teaching requirement. No other outside coursework may be taken during that semester, and students are directed to assume student teaching as a full-time task. The study activities in instructional methods and problems in the practicum segment of the semester are presented to relate directly to the individual teaching situations and programs where the student teachers are involved in teaching.

Plans For the Future:

This program is expected to continue as a regular component of the teacher education program in the Department of Industrial Education. Modifications to improve the efficiency and coordinated elements of the program are expected as the department moves toward a more competency-based instructional program, to which it has committed itself.

Project Publications:

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Dr. Gerald L. Jennings Office Phone 313-487-4330

Address Department of Industrial Education, Eastern Michigan University, Ypsilanti, Michigan 48197

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Career Education Activities Associated with the Industrial Education & Technology Department

Department / Division Department of Industrial Education & Technology

Institution / Organization Eastern Kentucky University

City, State Richmond, Kentucky Zip Code 40475

Director(s) of Activity IET Career Ed. Comm. Title Faculty

Date Initiated August, 1974 Date Concluded Continuing

Sponsor / Funding Agent Ind. Ed. & Tech. Department

Descriptors: Objectives

Higher Education

Career Education

Purpose / Goals / Objectives of Activity:

1. Philosophy for career development for:
   a. teachers
   b. technology students
2. Develop specific objectives to be accomplished
3. Recommendations for objective accomplishment

Progress to Date:

Developmental stage

Progress to Date (continued):

Plans For the Future:

Project Publications:

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: Too early in developmental stage for information to be available.

Person to Contact Dr. Roger Prewitt Office Phone 606-622-1485

Address Eastern Kentucky University, Richmond, Kentucky 40475

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Drafting for the Educable Mentally Retarded

Department / Division Technical Sciences

Institution / Organization Savannah State College

City, State Savannah, Georgia Zip Code 31404

Director(s) of Activity _____ Title _____

Date Initiated February, 1975 Date Concluded Open

Sponsor / Funding Agent _____

Descriptors:

Instructional Materials

Course Unit

Drafting/Drawing

Curriculum Development

Individualized Instruction

Purpose / Goals / Objectives of Activity:

To develop instructional material that will aid educable mentally retarded and slow learners understand and apply the key concepts of multi-view drawing.

Progress to Date:

Developing the first module on multi-views projection. Expect to test around 30 April 1975.

Progress to Date (continued):

Plans For the Future:

Project Publications:

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Charlie Gaulden Office Phone 912-356-2273

Address P. O. Box 20311, Savannah State College, Savannah, Georgia 31404

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Pre-Service Occupational Program

Department / Division: Home Economics & Industrial Technology

Institution / Organization: Illinois State University

City, State: Normal, Illinois Zip Code: 61761

Director(s) of Activity: Franzie L. Loepp Title: Director

Date Initiated: September, 1973 Date Concluded: June, 1976

Sponsor / Funding Agent: Ill. Office of Ed., Div. of Adult Voc.&Tech. Ed.

Descriptors: Individualized Instruction; Undergraduate Programs; Methods; Competencies; Competency Based

Purpose / Goals / Objectives of Activity:

Phase I (73-74)
1. Develop a set of competencies, stated as performance objectives, from previously validated lists of competencies for occupational teachers.

Phases II & III (74-76)
1. Develop self-instructional packages, called POP Kits, to deal with selected competencies.
2. Pilot test selected POP Kits at eight universities in Illinois that prepare occupational teachers.

Progress to Date:

During Phase I, a set of 62 competencies for occupational teachers were identified and verified. Each competency contains the elements of conditions, observable behavior, and criteria for evaluation.

During Phase II POP Kits were developed for 28 of the competencies. Eleven of those Kits were pilot tested at eight universities and subsequently revised. Each POP Kit contains the components of rationale, performance objective, pre-assessment, learning activities, and evaluation. A minimum of three types of learning activities were included in each Kit.

During Phase III, Kits were developed for ten additional competencies. All 28 previously developed Kits were pilot tested and subsequently revised.

Progress to Date (continued):

Plans For the Future:

The project ends June 30, 1976. Proposals are being accepted for commercial publication.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: A POP Kit on the Pre-Service Occupational Program. No cost.

Person to Contact Franzie Loepp Office Phone 309-438-2165

Address Illinois State University, Turner Hall, Normal, Illinois 61761

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Developing Awarenesses of Technological Advancements through Industrial Visits

Department / Division Industrial Education Department

Institution / Organization New Mexico Highlands University

City, State Las Vegas, New Mexico Zip Code 87701

Director(s) of Activity James D. Gugino Title Instructor

Date Initiated June, 1976 Date Concluded August, 1976

Sponsor / Funding Agent U.S. Office of Education (Vocational Ed.)

Descriptors:

Deprived Youth

Behavioral Objectives

Graduate Program

Course of Study

Industrial Visits

Purpose / Goals / Objectives of Activity:

In recent years, pre-vocational industrial arts courses have made significant progress toward helping students become aware of the multitude of career opportunities available in selected technologies and occupational families. However, classroom visits have revealed that although teachers seem to be sincere in their efforts to structure learning activities around career education objectives, the information discussed and the activities students participate in seem to reflect vocations of America's past rather than the type of careers today's student will see in future years. Countless teachers fail to match their efforts with the concept of a highly technological/ cybernated society. It is proposed to conduct a course in which teachers visit regional industries for the purpose of gaining insight into and understanding of careers practiced today and projected for tomorrow. Further, activities will be structured to enable these same teachers to write course syllibi which reflect these insights.

Progress to Date:

The project is in the final planning stages. A questionnaire has been sent to selected regional industries soliciting their cooperation. An eight-lesson, multi-media instructional program is being developed that includes topics to be discussed during the first two meetings of the course. Some of these topics are: Pre-vocational industrial arts courses as a history of industry and technology, Pre-vocational industrial arts and implications for the future, Using

Progress to Date (continued):

community resources to update curriculum, and Vicarious industrial trips for group exposure.

Plans are now being made as to which industries will be visited on what days during the remaining six class sessions.

Plans For the Future:

If successful, plan to initiate program at undergraduate level. Would also like to act as a regional clearinghouse of information for teachers who cannot enroll in course. A follow-up project will request funds to produce slide/tape series which can be requested for teacher who wishes to update.

Project Publications:

No formal research publication planned. After initial course, an article on the concept and lessons learned to be submitted to Man/Society/Technology.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Abstract, proposal, objectives, and approach available upon request.

Person to Contact James D. Gugino Office Phone 505-425-7511 Ext. 266

Address Industrial Education Department, New Mexico Highlands University, Las Vegas, New Mexico 87701

OR-76-64

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity A Taxonomy for Manufacturing

Department / Division Industrial Education and Technology

Institution / Organization Ball State University

City, State Muncie, Indiana Zip Code 47306

Director(s) of Activity Thomas Wright Title Professor

Date Initiated May, 1974 Date Concluded June, 1975

Sponsor / Funding Agent None

Descriptors:

Curriculum Model

Manufacturing

Purpose / Goals / Objectives of Activity:

To develop a conceptual model to aid in curriculum development projects related to manufacturing.

Progress to Date:

Model completed for a discussion draft.

Progress to Date (continued):

Plans For the Future:

Prepare a monograph which will contain the model complete with key definitions and basic rationale.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Discussion draft after June 1, 1976 - no cost

Person to Contact Thomas Wright Office Phone 317-285-6863

Address Department of Industrial Education and Technology, Ball State University, Muncie, Indiana 47306

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Slide Series to Support a Course on Manufacturing Management (Line Production)

Department / Division Industrial Education and Technology

Institution / Organization Ball State University

City, State Muncie, Indiana Zip Code 47306

Director(s) of Activity Thomas Wright Title Professor

Date Initiated September, 1967 Date Concluded February, 1976

Sponsor / Funding Agent None

Descriptors:

Audio-Visual

Instructional Materials

Manufacturing

Purpose / Goals / Objectives of Activity:

Industrial Arts Educators are more readily accepting industrial management as a unit of study. Instructional materials for this area are rare, therefore, a set of slide series to support the study was deemed necessary.

Progress to Date:

Nine slide series with taped narrations have been completed. Many have gone through two revisions. The titles are: (1) What Is Industry?, (2) Manufacturing, (3) Industrial Management, (4) Research and Development, (5) Production, (6) Marketing, (7) Industrial Relations, (8) Financial Affairs, (9) Union Organizing Activities.

Progress to Date (continued):

Plans For the Future:

Continue to add titles to the set, including:

(1) Manufacturing Tooling
(2) Packaging: Design and Production
(3) Inspection Devices and Gages

Project Publications:

None

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Outline of the set - no cost on individual request.

Person to Contact Thomas Wright Office Phone 317-285-6863

Address Department of Industrial Education and Technology, Ball State University, Muncie, Indiana 47306

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Curriculum Practicum in Industrial Education

Department / Division: Industrial Education and Technology

Institution / Organization: Ball State University

City, State: Muncie, Indiana Zip Code: 47306

Director(s) of Activity: Richard V. Barella, Asst. Prof.; Richard Henak, Assoc. Prof. Title:

Date Initiated: September, 1971 Date Concluded: On-Going

Sponsor / Funding Agent: None

Descriptors:

Professional Courses

Curriculum Development (Revision)

Undergraduate Programs

Innovative Programs

Methods

Purpose / Goals / Objectives of Activity:

The need to provide more teaching experiences for prospective teachers throughout teacher preparation programs has been advocated by numerous educators. It is believed that student teaching alone is not enough. All too often students learn about curriculum and instruction in college classes but rarely apply what they have learned. Our professional sequence has been designed to minimize this problem. The first two courses provide in-class experiences related to curriculum and instruction. The third course is a synthesis experience which has students applying what they have learned by developing and implementing units of instruction in public schools.

Progress to Date:

A filmstrip/cassette program has been developed to introduce the course which is team taught. The teaching team provides initial instruction in order to reinforce concepts and practices introduced in the two previous courses. Teams of two or three students first prepare a written unit which is evaluated in a conference with one of the instructors. Revisions are then incorporated into a second draft which is again evaluated. Each team then selects and teaches a lesson to their peers in a dry run. Feedback from peers and instructors aid in unit improvement. The students then implement their units with public school students from 5 to 10 days. Feedback from several sources is then analyzed by each team so they are able to prepare and submit a final revision of the unit.

Progress to Date (continued):

The 3-quarter hour course is required by all industrial teacher education majors and minors. Over 20 sections of the course have been offered thus far, with four instructors being involved in its development, revision, and implementation. The course has undergone continuous evaluation by students, cooperating teachers, and university instructors. The data collected has been used to continually refine the course. As a result the teaching experiences for undergraduates have become more real.

Plans For the Future:

1. Providing a course to better prepare students to produce instructional materials.
2. Providing more teaching experience options by bringing public school students to the university.
3. Providing a course for beginning students that will have them systematically observing and working in public schools. It is believed that a course of this nature will allow students to make more informed career program decisions.

Project Publications:

Unpublished paper describing the program

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Unpublished paper - no cost.

Person to Contact Richard V. Barella 317-285-4429
Richard Henak Office Phone 317-285-7660

Address Department of Industrial Education and Technology, Ball State University, Muncie, Indiana 47306

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Unified Arts, An Instructional Organizational Pattern for the Middle School

Department / Division Unified Arts Department

Institution / Organization The Fox Lane Middle School

City, State Bedford, New York Zip Code 10506

Director(s) of Activity Dr. Sheldon R. Wiltse, Jr. Title Head of Dept.

Date Initiated September 9, 1975 Date Concluded

Sponsor / Funding Agent Bedford Central School District

Descriptors:

Curriculum Development
Junior High School
Problem Solving
Material Processing Systems
Design

Purpose / Goals / Objectives of Activity:

Heretofore there has not been available any extended description and evaluation of the operation of a middle school unified arts team. The Unified Arts program at The Fox Lane Middle School, Bedford, N.Y. is the focus of this study to help provide the answers to the general questions--What is unified arts at the middle school level, its activities and strategies? Specifically the study asks of Fox Lane, how were the ideas and program of unified arts planned, started and implemented? What forces or factors brought about, slowed, or halted progress? What were the key transitional points in the long chain of events leading to the continuous program and the collegial Unified Arts team? What original ideas needed modification? How did decision making take place?

Progress to Date:

The design of this study consisted of three major phases: First, a three-year history of the development of the concept of Unified Arts in Bedford and a three-year history of the formulative period of curriculum construction; second, a description of the current program; third, an internal summative evaluation of the results of the program for the purpose of course improvement at Fox Lane.

While the first two phases were descriptive in nature, the last interprets objective data gathered through the use of two instruments; a Student Observational Schedule, designed to systematically observe students' behavior to determine if indeed students were engaged in problem-solving activities, and a Student Unified Arts Reaction Inventory, designed to assess the student's attitude toward the arts.

Unified Arts can flourish effectively within the middle shool.

Progress to Date (continued):

The primary key to this effectiveness was determined, through the historical analysis of the study, to be the dedicated, creative and flexible team. It was the team's flexibility toward change in educational procedures, teacher roles, attitudes, and values that provided the catalyst and motivation for the long and often frustrating process of curriculum construction. The program at Fox Lane sought to produce and integrate insights, information, and understanding about design, techniques, and materials in the plastic and visual arts.

These latter strands broadly represent the structure for the program's development. The understanding of their interaction and interdependence in the influencing of the design plan or final form was the key to the problem-solving process sought for all students' comprehension in Unified Arts. Increasing the student's intellectual independence by bettering his problem-solving effectiveness was the total spectrum of the Fox Lane program.

Plans For the Future:

To implement this program into an Ungraded Middle School Organization.

Project Publications:

Wiltse, Sheldon R., Editor. "Discovering Visual Communication Through the Production of a Newspaper." Bedford: The Fox Lane Middle School, 1967.

Wiltse, Sheldon R., Editor. "Understanding Unified Arts." Bedford: The Fox Lane Middle School, 1973.

Wiltse, Sheldon R., Editor. "Unified Arts, An Instructional-Organization Pattern for the Middle School, 1973.

Wiltse, Sheldon R., Editor. "Developing a Unified Arts Area in an Ungraded Middle School." Industrial Arts and Vocational Education, March, 1965.

Wiltse, Sheldon R. "Developing a Unified Arts Curriculum in an Ungraded Middle School." Industrial Arts and Vocational Education, September, 1968.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Through booklets I will have sent to you, at our cost, from our Unified Arts Department of The Fox Lane Middle School.

Person to Contact Dr. Sheldon R. Wiltse, Jr. Office Phone 666-6731 Ext. 268

Address The Fox Lane Middle School, Route 172, Bedford, New York 10506

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Guidelines for Planning Industrial Education Facilities and Equipment

Department / Division Business and Industrial Management

Institution / Organization University of Wisconsin - Stout

City, State Menomonie, Wisconsin Zip Code 54751

Director(s) of Activity Douglas Stallsmith Title Assoc. Prof.

Date Initiated June, 1974 Date Concluded November, 1975

Sponsor / Funding Agent

Descriptors:

Facility Planning

Faculty

Administration

General Laboratory

Unit Laboratory

Purpose / Goals / Objectives of Activity:

The problem of this study was to develop guidelines for planning industrial education facilities and equipment which will assist the facility planning team in developing a facility proposal to present to the school administration and architect.

The study goes through a sequence of planning steps which are applicable to new or remodeling facilities in today's industrial education area. It gives recommendations on the environmental features and equipment, as well as covering evaluation and facility alternatives.

Progress to Date:

The guidelines were completed in November, 1975.

Progress to Date (continued):

Plans For the Future:

To have the guidelines available to teachers and administrators in the field.

To use the procedures developed in helping school districts to design and remodel facilities for industrial education.

Project Publications:

Stallsmith, Douglas D. Guidelines for Planning Industrial Education Facilities and Equipment. (Doctoral dissertation at University of Minnesota) University Microfilms, 1976, Ann Arbor, Michigan.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Research Abstract - no cost

Person to Contact Douglas D. Stallsmith Office Phone 715-232-1659

Address 225B Applied Arts Bldg., University of Wisconsin-Stout,

Menomonie, Wisconsin 54751

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Industrial Arts Teacher Education Program Evaluation

Department / Division: Industrial Arts

Institution / Organization: The University of Alberta

City, State: Edmonton, Alberta, Canada Zip Code: T6G 2E1

Director(s) of Activity: Cam J. Ross Title: Lecturer

Date Initiated: January, 1975 Date Concluded: August, 1976

Sponsor / Funding Agent: The University of Alberta

Descriptors:

Competencies

Evaluation - Program

Undergraduate Programs

Research

Purpose / Goals / Objectives of Activity:

1. To identify the competencies required to teach Industrial Arts content in Alberta schools.
2. To determine the extent to which the Industrial Arts Teacher Education program at the University of Alberta develops these competencies in its program graduates.

Progress to Date:

206 specialized Industrial Arts competencies have been identified and validated.

Evaluation of the teacher education program is in progress. Data have been collected and are being analyzed.

Progress to Date (continued):

Plans For the Future:

To use results of the research as an aid in further developing the Industrial Arts Teacher Education Program at the University of Alberta.

Project Publications:

Nil (to date).

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: Doctoral dissertation.

Expected to be completed by Fall, 1976.

Person to Contact C. J. Ross Office Phone 403-432-5621

Address Dept. of Industrial & Vocational Education, The University of Alberta, Edmonton, Alberta, Canada T6G 2E1

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: A Career Awareness Model Incorporating Constructional Activities in Grades K-6

Department / Division: Industrial Education

Institution / Organization: University of Missouri-Columbia

City, State: Columbia, Missouri Zip Code: 65201

Director(s) of Activity: F. Milton Miller Title: Assoc. Prof.

Date Initiated: 1-1-74 Date Concluded: 6-3-75

Sponsor / Funding Agent: Research Coordinating Unit Missouri

Descriptors:

Research

Career Education

Program Planning

Elementary Education

Curriculum Models

Purpose / Goals / Objectives of Activity:

This project reviewed and synthesized effective career education practices that utilized constructional activities in grades K-6 and then developed an in-service model to facilitate the implementations of these practices in other elementary schools.

The objectives included: a review of selected projects; identifying the tools, materials and constructional activities utilized; and a synthesis of the results into an in-service model for dissemination to local schools.

Progress to Date:

Completed 6-3-75.

Progress to Date (continued):

Plans For the Future:

Dissemination to school districts.

Project Publications:

Final report "A Career Awareness Model Incorporating Constructional Activities in Grades K-6-Project 1169."
Slide/Tape Presentation of Model Porject 1169.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Final Report #1169 (125 pages). Slide/Tape Presentation (90 slides).

Person to Contact Allen Kelsay Office Phone 314-751-2661

Address State Department of Education, Research Coordinating Unit, Jefferson City, Missouri 65101

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Curriculum Development and Implementation in Technology

Department / Division Program for the Study of Technology

Institution / Organization West Virginia University

City, State Morgantown, West Virginia Zip Code 26506

Director(s) of Activity James R. Gray
Walt A. Seder Title Grad. Assist.

Date Initiated July, 1973 Date Concluded July, 1976

Sponsor / Funding Agent Mason County Public School System

Descriptors:

Conceptually Based

Curriculum Model

Culture

General Education

Manufacturing

Purpose / Goals / Objectives of Activity:

We live in an technological society; one which is highly industrialized and technically oriented. The citizenry of our culture find themselves under an ever increasing demand to understand the advancement of technology in order to draw a clear perspective of their place within the societal structure.

The purpose of this program is to serve as a basic conceptual study of the major manufacturing systems as they developed and exist today.

Progress to Date:

Five manufacturing systems, representing the past, present, and future, were researched and structured in such a way as to allow the learner the opportunity to explore their importance to man's development. Each system is approach through the study of nine concepts, both technical and sociocultural, which constitute man's efforts to manufacture his goods.

Content of the program is supported through selected activities which allow the student to examine each concept as it relates to the system being studied.

Upon completion of the research, development, and implementation effort, a total course of study will be transmitted to a full-time teacher.

Progress to Date (continued):

Plans For the Future:

1. Complete the third year of the developmental effort.
2. Evaluate the effect of the course at the Junior High School level.
3. Transmit to a teacher.

Project Publications:

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact _____ Office Phone _____

Address _____

_____

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Development, Field Testing, and Implementation of an Activity-Based Career Orientation Course

Department / Division Industrial Arts

Institution / Organization VPI & SU

City, State Blacksburg, VA Zip Code 24061

Director(s) of Activity Ralph Ressler
William Dugger, Jr. Title Assoc. Profs.

Date Initiated July 1, 1974 Date Concluded July 1, 1977

Sponsor / Funding Agent State of Virginia

Descriptors:

Career Education
Course of Study
Innovative Program
Simulation
General Education

Purpose / Goals / Objectives of Activity:

The proliferation of exploratory courses in the State of Virginia and the current concern for career development has led to a need for a simulation-based orientation experience. The 180 day course is cycled into "self," work mode, occupational clusters, and educational planning phases; students go through the cycle twice. The course is extremely flexible and can be abbreviated. Approaching career-related experiences through work environments has implications for teaching methods, teacher preparation, and exploratory course designing.

Progress to Date:

Student activity books and teacher's guides have been developed and 1000 students across the state are presently involved in evaluating each of 70 learning activities. The 20 teachers are also evaluating the material. All feedback is computer-read; revisions will be completed by fall of 1976. Videotapes have been developed under a separate grant. EPDA monies have supported ancillary personnel development. Supporting instructional materials (games, posters, etc.) are being developed. An adjunct faculty is being trained to aid in statewide implementation.

Progress to Date (continued):

Plans For the Future:

The course, Careers and You, will be implemented throughout the State of Virginia in the fall of 1977. Additional field test sites will total 15 by that time. Product evaluations will be done during the 1976-1977 school year to determine the effect of the experience on youngsters. It is expected that curriculum development addressed at the exploratory courses will develop as a natural outgrowth of the effort.

Project Publications:

Rationale and Structure - Careers and You (1975)

Careers and You - Student Activity Book (1976)

Careers and You - Teacher's Guide (1976)

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Brochure - no cost.

Person to Contact Ralph Ressler Office Phone 703-951-5444

Address Price House, Virginia Polytechnic Institute & State University

Blacksburg, Virginia 24061

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Wind as a Power Source - With Special Application to Industrial Arts Power Technology

Department / Division Industrial Arts and Technology

Institution / Organization State University College

City, State Oswego, New York Zip Code 13126

Director(s) of Activity Dr. Charles W. Phallen Title Professor

Date Initiated December, 1974 Date Concluded May, 1975

Sponsor / Funding Agent None

Descriptors: History

Power Systems

Knowledge (Cognitive)

Purpose / Goals / Objectives of Activity:

The purpose of this thesis has been to determine ways in which man has used wind power in the past. The present application of this energy source have been cited as well as future implications for use because of the present condition of dwindling energy from other sources. Special emphasis was placed on the possibilities for implementation for the future benefit of man.

Ways in which wind power relates to industrial arts power technology have been analyzed. The extent wind power subject matter is being taught in the public schools of New York State has been revealed by a survey. Activities that could be incorporated into the schools have been uncovered.

Progress to Date:

In studying wind power and its implications for industrial arts, several different methods have been employed. Their use produced a thorough examination of the past, present, and future of this power source. Also, ways of injecting wind power into the industrial arts classroom have evolved.

The following is a list of the methods and procedures that were used:

1. A review of the literature to discern the past of wind power in relation to the technological development of man.
2. A review of current applications of wind power by man.
3. A review of studies and pending research projects to form a direction for the future of wind power.
4. The development of a survey instrument that was distributed

Progress to Date (continued):

to selected New York State industrial arts power teachers.

5. An analysis of the data collected by the survey instrument.

6. A summary of the study with special recommendations with the expressed intent of incorporating interesting and meaningful activities into an industrial arts program.

A result of this study has been a thorough review of the literature. This has indicated the importance man has placed on wind power in the past for operating windmills and sailing ships. The last century has shown a decline in the use of wind power mainly due to other power sources that were initiated. Present energy shortages have evoked a small amount of research interest, but much more is necessary.

The survey showed a lack of coverage of this topic for New York State industrial arts classrooms. Reasons pertinent to this, such as insufficient time, lack of interest, importance, etc., were revealed.

Plans For the Future:

The importance of wind power in the past and the potential it could have in the future demands that more emphasis be placed on the research, development, and dissemination of this concept. Definite programs must be incorporated into the scientific as well as the educational worlds. Because of the nature of industrial arts power technology, wind power must be included. Only through the development of these areas can wind power be efficiently harnessed for the benefit of mankind.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Verbal

Person to Contact William Waite Office Phone 315-341-3144

Address State University College, Department of Industrial Arts and Technology, Oswego, New York 13126

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity The Impact of Numerical Control Technology and Computer Aided Manufacturing on Curr. Development in Ind. Ed. and Tech.

Department / Division Industrial Education

Institution / Organization Texas A&M University

City, State College Station, Texas Zip Code 77843

Director(s) of Activity Boone, James L. Dept. Head
Bauch, Klaus D. Title Assoc. Pro.Dir.

Date Initiated September 15, 1975 Date Concluded June 30, 1976

Sponsor / Funding Agent Texas Ed. Agcy, Div. of Occup. Res. and Dev.

Descriptors:

Curriculum Development
Manufacturing
Research
Numerical Control
Engineering (Process R&D)

Purpose / Goals / Objectives of Activity:

The study focuses on the changing needs and requirements of industry and individuals preparing for employment in numerical control technology and computer aided manufacturing.

The specific objectives of the study are:

1. Determine the opinion of N/C-Users in industry with regard to concepts and tasks required of personnel working in NC/CAM.
2. Identify attitudes of educators teaching in this field concerning the type of curriculum content and student competencies required.
3. Based on a comparison of industry's and education's perceptions, develop a conceptual curriculum model.

Progress to Date:

Through a preliminary survey among some 50 selected universities and an equal number of N/C-Users in industry, detailed curriculum materials, study guides, and technical literature was collected, reviewed, and analysed.

A comprehensive mailing list was compiled including all departments of industrial education and engineering technology at four-year institutions across the nation which presently offer instruction in N/C or are planning to offer instruction in the near future.

Two survey questionnaires were developed for educators and representatives from industry. Presently a nationwide survey is being conducted to collect the necessary data for subsequent development of the conceptual curriculum model.

Progress to Date (continued):

Plans For the Future:

Project Publications:

Bauch, Klaus D. The Impact of Numerical Control Technology and Computer Aided Manufacturing on Curriculum Development in Industrial Education and Technology. (Doctoral Dissertation, Texas A&M University) Ann Arbor, Michigan: University Microfilms (later in 1976).

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Research Abstract at no cost. Summary of survey results and curriculum guide upon request; available after August 1976.

Person to Contact Bauch, Klaus D. Office Phone 713-845-3016

Address Department of Industrial Education, Texas A&M University, College Station, Texas 77843

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Teacher Education in the State of Pennsylvania for Industrial Arts in the Elem. Grades: Identification of Competencies

Department / Division Industrial Arts Education

Institution / Organization California State College

City, State California, Pennsylvania Zip Code 15419

Director(s) of Activity B.R. Kneisley, P.J. Proud, J.R. Swearingen Title Advisors

Date Initiated September, 1972 Date Concluded August, 1973

Sponsor / Funding Agent None

Descriptors: Competencies

Research Competency/Based

Elementary Education

Purpose / Goals / Objectives of Activity:

The purpose of the study was to develop a list of competencies for the initiation of a teacher education program in industrial arts for the elementary grades. The list was developed in response to the needs and desires of the five institutions of higher learning offering industrial arts in the state of Pennsylvania.

The list was developed in response to coordinators of industrial arts education in all cities (with a population of 50,000 people or more) of Pennsylvania and to selected individuals who have written a text or initiated an elementary industrial arts program. Validity of the competencies was established using the following materials: available publications, previous research, and a questionnaire. Once the questionnaires were returned, responses were evaluated and a mean value was assigned to each of the competencies. Also, additions or omissions to the listing were recorded.

Progress to Date:

The list was organized into a sequence of recommended courses and submitted to the Director of Industrial Arts at California State College, Pennsylvania. The list has been up-dated to include competencies identified by subsequent research in the field and has been disseminated to individuals, program directors, and department heads upon request.

Progress to Date (continued):

Plans For the Future:

1. Organize selected competencies from the study into an in-service training program for elementary classroom teachers.
2. Continue to expand and up-date the list.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: List of evaluated competencies

$1.00. Information available by individual requests

Person to Contact Mr. H. Terry Leeper Office Phone 919-737-2236

Address N.C. State University, Industrial Arts Program, Box 5096,

Raleigh, North Carolina 27607

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Industrial Aids for Industrial Arts

Department / Division Department of Industrial Arts

Institution / Organization Jackson State University

City, State Jackson, Mississippi Zip Code 39217

Director(s) of Activity Armand M. Seguin Title Asst. Prof.

Date Initiated Fall, 1972 Date Concluded Spring, 1973

Sponsor / Funding Agent None

Descriptors:

In-Service Education

Audio Visual

Course of Study

Instructional Devices (Equip.)

Undergraduate

Purpose / Goals / Objectives of Activity:

To develop a course of study designed to help industrial education teachers better communicate their knowledge to the student by using instructional devices. It was felt that both practicing teachers and trainees need a course in instructional devices designed specifically for their needs.

Progress to Date:

A course of study has been prepared and the course offered several times. The students use not only film projects and other common aids, but also must use photography, mock-ups, and other devices in assignments that reflect needs in teaching industrially-related information.

Progress to Date (continued):

Plans For the Future:

1. Continue to expand and improve the basic course.
2. Acquire more audio-visual devices.
3. Compile a master list of sources of films and aids available concerning industry.
4. Utilize more video devices to aid self-evaluation in demonstrations using instructional aids.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Course outline available upon request.

Person to Contact Armand M. Seguin Office Phone 601-968-2476

Address Department of Industrial Arts, Jackson State University, Jackson, Mississippi 39217

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Development of a laboratory manual in Basic Electricity incorporating a series of projects and experiments

Department / Division Industrial Education

Institution / Organization Rhode Island College

City, State Providence, Rhode Island Zip Code 02908

Director(s) of Activity Dr. Edward D. Bzowski Title Chairman

Date Initiated September, 1972 Date Concluded In action

Sponsor / Funding Agent None

Descriptors: Projects

Instructional Materials (media) Unit Laboratory

Electricity/Electronics

Purpose / Goals / Objectives of Activity:

The commercial laboratory manuals in electricity/electronics did not meet the needs of my Basic Electricity course; a lab manual which provided a mix of simple projects as well as experiments utilizing test equipment. The new manual would provide such a mix and be instructionally programmed to the course outline.

Progress to Date:

The first draft was tested in 1973 and it proved a great success in providing projects which (1) reinforced the theory units and (2) motivated the students.

Each project and experiment was developed for maximum learning in electricity with a minimum involvement in construction. Whenever a new experiment requiring a new instrument test procedure was introduced, it graphically showed the controls to use, how to read the meter scales and what precautions to consider. The manual is self-programmed requiring a minimum effort of teacher preparation.

Progress to Date (continued):

Plans For the Future:

Continue to change and up-date various experiments for better programming and learning.

Project Publications:

No published. Pending.

Available Information:

Information is available upon written request: ☐ YES ☐ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact _____ Office Phone _____

Address _____

_____

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Development of a competency based program to prepare Industrial Educators to work with the handicapped.

Department / Division: Division of Technology

Institution / Organization: Central Connecticut State College

City, State: New Britain, Connecticut Zip Code: 06050

Director(s) of Activity: Michael J. Williams Title: Asst. Prof.

Date Initiated: September, 1975 Date Concluded: June, 1978

Sponsor / Funding Agent: Bureau of the Handicapped-USOE

Descriptors:

In-Service Education
Exceptional Children
Competencies
Undergraduate Programs
Competency-Based

Purpose / Goals / Objectives of Activity:

A program designed to prepare selected individuals already trained in industrial arts, vocational-technical education, or special education to work with and develop needed career and vocational programs for the handicapped would fill a void which presently exists in most teacher education programs. An attempt is being made to develop a model through which teachers of industrial arts, vocational education and special education could work cooperatively in the total education of the handicapped who are mainstreamed into the regular school program.

Progress to Date:

Efforts are currently aimed at an analysis of existing industrial arts, career education, vocational-technical education and special education programs in Connecticut in order to determine:

1. If the handicapped are being served in career, industrial arts and vocational-technical education programs.
2. The training of the instructors in these areas to work with the handicapped.
3. If special educators feel a need to include some experiences in industrial arts and vocational-technical education in their undergraduate preparation.

A review of the literature on competency based teacher education is also being conducted.

Progress to Date (continued):

Plans For the Future:

If the survey indicates that a competency based program should be developed, the 1976-77 school year will be devoted to:

1. delineating specific instructional objectives.
2. designing the program.
3. formulating assessment procedures.
4. designing instructional strategies and materials.

Project Publications:

None as yet.

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact _____ Office Phone _____

Address _____

_____

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Introduction to Vocational-Industrial Teaching

Department / Division Industrial Education

Institution / Organization University of Minnesota

City, State 125 Peik Hall, Minneapolis, Minnesota Zip Code 55455

Director(s) of Activity David Bjorkquist Title Professor

Date Initiated _____ Date Concluded _____

Sponsor / Funding Agent EPDA 553

Descriptors:

Individualized Instruction
In-service Education
Methods
Professional Courses
Programmed Learning

Purpose / Goals / Objectives of Activity:

This instructional material is intended to prepare individuals entering teaching from industry for their roles as teachers. An overview of the job of the teacher together with the development of competencies necessary for entry into teaching are to be developed.

Progress to Date:

A series of seven video tapes, statements of objectives, learning activities and self-evaluation were developed. These are entitled:

Design a vocational course
Plan for instruction
Execution of instruction
Evaluation of instruction
Management of laboratory and students
Advise and counsel students
School, community and professional relations

Progress to Date (continued):

Plans For the Future:

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Video tapes and written materials for seven units of instruction approximately $75.00.

Person to Contact David Bjorkquist Office Phone 612-373-7720

Address 125 Peik Hall, University of Minnesota, Minneapolis, Minnesota 55455

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Introduction to Lithography via Laboratory Based Competency Instructional Manual

Department / Division Industrial Studies Department

Institution / Organization California State University, Los Angeles

City, State Los Angeles, California Zip Code 90032

Director(s) of Activity Kenneth F. Hird Title Asst. Prof.

Date Initiated September, 1974 Date Concluded June, 1975

Sponsor / Funding Agent California State University, Los Angeles

Descriptors:

Competency Based
Graphic Communication (Arts)
Instructional Materials (Media)
Printing
Individualized Instruction

Purpose / Goals / Objectives of Activity:

Introduction to Lithography is a laboratory manual designed to help students gain a fundamental understanding of basic lithographic processes. The instructional content of the manual is divided into three assignments which include basic methods and materials used in photolithography. Study units, reading references, lithography assignments, and a glossary of lithographic terms are included. The major goal of the manual is to introduce students to lithography. In an effort to achieve this goal, the instructor is urged to include the suggested assignments and independent investigations outlined in the units. The instructional sequence has been developed so that each new experience builds on the last, while adding new terms and introducing new techniques to complete a foundation course.

Progress to Date:

Evaluation of student achievement is based upon performance objectives in the form of activities undertaken in the classroom and laboratory. The instructor is the facilitator and diagnostician who identifies student level and needs.

A wide variety of supplementary materials have been identified to support the entire learning system. These include lithographic texts and references, learning packages, pre- and post-tests, laboratory activities, assignment evaluation sheets, slide-tape presentations, and overhead transparencies. The system takes advantage of several noted graphic arts textbooks to provide enrichment and diverse

Progress to Date (continued):

experiences within lithography. Various media are suggested or indicated but the manner in which it is presented is left up to the instructor.

Benefits of this program include increased self guidance, self direction, and motivation on the part of students. Actual experience with this type of program has shown that poor student progress or discouragement is easily identifiable.

Plans For the Future:

1. Continue to expand on the use of the materials at the undergraduate level.
2. Prepare in a format for publication.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Information on laboratory manual by individual request.

Person to Contact Kenneth F. Hird Office Phone 213-224-3221

Address Industrial Studies Department, California State University, Los Angeles, Los Angeles, California 90032

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Computer Assisted Instruction in Electronics/An Interactive System

Department / Division Industrial Arts Department

Institution / Organization University of Northern Colorado

City, State Greeley, Colorado Zip Code 80639

Director(s) of Activity Jelden--Thompson Title Prof. In. Arts

Date Initiated March 15, 1976 Date Concluded On-going

Sponsor / Funding Agent None--University Res. Committee

Descriptors: Individualized Instruction

Programmed Learning Electricity/Electronics

Computer Instruction (Devices)

Purpose / Goals / Objectives of Activity:

To use the computer as an adjunct to instructional theory for the field of electronics--teach concepts of field with an automoated, self directing and scoring machine, the computer. An attempt will be made to include management function also.

Progress to Date:

Software--instructional program and machine language ready to put system in operation. Presently waiting for computer to be delivered from manufacturer.

1 - Central processing unit (Altair 8-800)
1 - Disk pac
1 - Crt/Tty terminal
1 - Cassette interface
1 - High speed printer

Progress to Date (continued):

Plans For the Future:

Extended research and adoption.

Project Publications:

Dissertation and feature articles in future AIAA publications.

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Dr. David L. Jelden Office Phone _____

Address Department of Industrial Arts, University of Northern Colorado, Greeley, Colorado 80639

OR-76-83

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity List of Addresses for Power Mechanics Information

Department / Division Industrial Education

Institution / Organization Chadron State College

City, State Chadron, Nebraska Zip Code 69337

Director(s) of Activity Mr. Randy Amundson, Grad. Asst.
Dr. Merlyn L. Gramberg Title Chairman

Date Initiated August, 1975 Date Concluded May 1, 1976

Sponsor / Funding Agent Chadron State College

Descriptors:

Mechanical Power

Land Transportation

Instructional Materials

Power Technology

Audio-Visual

Purpose / Goals / Objectives of Activity:

The purpose of this activity is to provide Power Mechanics instructors a listing of companies that supply reference materials and educational products.

Progress to Date:

The Director of this activity has accumulated the information for this project. Organization and production of the material still remains to be completed.

Progress to Date (continued):

Plans For the Future:

Continue to up-date the information as it becomes available.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Pamphlet production and mailing cost will be determined.

Person to Contact Mr. Randy Amundson
Dr. Merlyn L. Gramberg Office Phone 308-432-4452 Ext. 371

Address Chadron State College, Chadron, Nebraska 69337

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity An Identification and Evaluation of Selected Praxiological Inputs for the Prep. of Const. Tech. Tchrs. in Ind. Arts Edu.

Department / Division Academic Faculty of Industrial Technology

Institution / Organization The Ohio State University

City, State Columbus, Ohio Zip Code 43210

Director(s) of Activity Roy A. Buckingham Title Asst. Prof.

Date Initiated November, 1970 Date Concluded August, 1973

Sponsor / Funding Agent None

Descriptors: Curriculum Models; Research; Undergraduate Programs; Competency Based; Construction

Purpose / Goals / Objectives of Activity:

The purpose was to identify construction practice knowledges essential to the performance of certain tasks to a prescribed psychomotor level. With such knowledges and performance levels determined, IACP and non-IACP teacher educators would thereby gain assistance in planning better construction technology programs. Prospective intermediate teachers would have a better understanding of what was required of them in such a program and be better able to meet the terminal performance required.

Progress to Date:

Initially, three items were developed, then tested. Developed were (1) a praxiological input schema to provide a way to analyze and structure construction production knowledges (known as enablers), (2) a terminal performance criteria (TPC) model containing praxiological inputs of tasks associated with enablers, and four stratified performance levels couched in a psychomotor framework, and (3) an evaluation instrument evolving from the model by which enablers could be assessed and performance levels selected. Tasks of a psychomotor nature with enablers were sought as praxiological inputs by using the schema, then categorized into three construction technology areas: 1) preprocessing, 2) processing, and 3) postprocessing. These items were then structured according to the TPC model. Tasks were placed

Progress to Date (continued):

within each of the three areas. Enablers associated with each task and the four performance levels were inserted into the TPC model. Judges determined the essential enablers that were necessary in order for prospective teachers to perform the task with a certain amount of knowledge and at a certain psychomotor performance level. The results of the study are useful to industrial arts teacher educators who have to determine whether the future construction technology teacher has an adequate knowledge base to perform certain tasks at an acceptable job-entry level.

Plans For the Future:

The schema and TPC Model are adaptable to several technology areas, therefore efforts will be made to apply this system to certain other teacher education areas.

Project Publications:

Buckingham, R. A. An Identification and Evaluation of Selected Praxiological Inputs for the Preparation of Construction Technology Teachers in Industrial Arts Education. (Doctoral dissertation, The Ohio State University), Ann Arbor, Mich.: University Microfilms, 1973, No. 74-3128.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Research abstract - no cost.

Person to Contact Roy A. Buckingham Office Phone 812-232-6311 Ext. 5767

Address Dept. of Aerospace Technology, Indiana State University, Terre Haute, Indiana 47809

OR-76-85

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: A Study of Potential Directions for Industrial Arts Toward the Year 2000 A.D.

Department / Division: Department of Industrial Education

Institution / Organization: University of Maryland

City, State: College Park, Maryland Zip Code: 20742

Director(s) of Activity: Kendall Starkweather Title: Asst. Prof.

Date Initiated: 1974 Date Concluded: May, 1975

Sponsor / Funding Agent: None

Descriptors:

Curriculum Development
Curriculum Models
Facility Planning
Program Planning
Innovative Programs

Purpose / Goals / Objectives of Activity:

The purpose of the study was to provide a series of statements which would be descriptive of certain aspects of future programs in industrial arts. The results of the study may be useful for the planning of new curriculums and for improving current procedures. A third purpose was to identify central patterns, issues, and directions which may be examined for their effect on the field of industrial arts education.

Progress to Date:

A listing of directions regarding the future of industrial arts was developed and a prediction was made indicating the extent to which each item in the listing would be involved in the programs functioning within a series of time intervals from the year 1975-2000 A.D.

Progress to Date (continued):

Plans For the Future:

Project Publications:

Starkweather, Kendall N. "Prologue." Alternative Futures for Industrial Arts. Yearbook XXV, American Council on Industrial Arts Teacher Education, 1976.

Starkweather, Kendall N. "A Study of Potential Directions for Industrial Arts Toward the Year 2000 A.D." Journal of Industrial Teacher Education. Summer, 1976 (in press).

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Research abstract - no cost.

Information provided upon request.

Person to Contact Dr. K. N. Starkweather Office Phone 301-454-4264

Address Department of Industrial Education, University of Maryland, College Park, Maryland 20742

OR-76-86

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity A Survey to Determine the Status for Funding of Industrial Arts Under the Vocational Act in the State of Maryland

Department / Division Department of Industrial Education

Institution / Organization University of Maryland

City, State College Park, Maryland Zip Code 20742

Director(s) of Activity Kendall N. Starkweather Title Asst. Prof.

Date Initiated January, 1976 Date Concluded Still in progress

Sponsor / Funding Agent Completed in cooperation with the Maryland State Department of Education

Descriptors:

Evaluation - Program

Jr. & Sr. High School

Follow-up

Program Planning

Purpose / Goals / Objectives of Activity:

The purpose of this research is to determine the status of funding of industrial arts programs in each county in the State of Maryland. The findings from this study will be used by the state supervisor of industrial arts for better utilization of money which is available for industrial arts programs.

Progress to Date:

A questionnaire has been sent to every county supervisor of industrial arts in the State of Maryland requesting information regarding each county's use of vocational money for industrial arts programs.

Progress to Date (continued):

Plans For the Future:

Upon return of the questionnaire, the data will be analyzed to determine how programs are presently being funded, what expectations the supervisors have for future funding, and the status of funding for industrial arts in the entire state.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: At the present time a copy of the instrument may be obtained, in the near future a copy of the summary and conclusions may be secured.

Person to Contact Dr. K. N. Starkweather Office Phone 301-454-4264

Address Department of Industrial Education, University of Maryland, College Park, Maryland 20742

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Energy and Energy Devices Curriculum

Department / Division I.A. Teacher Education Center

Institution / Organization Fitchburg State College

City, State Fitchburg, Massachusetts Zip Code 01420

Director(s) of Activity George B. James Title Professor

Date Initiated October, 1974 Date Concluded December 31, 1976

Sponsor / Funding Agent Massachusetts State Dept. of Education

Descriptors: Individualized Instruction

Behavioral Objectives Power Systems

Curriculum Development (Revision)

Purpose / Goals / Objectives of Activity:

The curriculum is designed to provide a meaningful introduction to the world of work for students of varying ages and abilities. Dr. Herome Bruner and others have defined the concept of learning in terms of a spiral curriculum; basic concepts can be taught to anyone at any age in some form. The Energy and Energy Devices Curriculum attempts to provide a learning form appropriate for a broad range of age and ability levels. A curriculum with sufficient flexibility can be used by many types of students; in addition, curriculum flexibility makes it possible to utilize the learning materials for multiple purposes, from introductory-exploratory to skills training.

Progress to Date:

The Energy and Energy Devices Curriculum encompasses the broad field of energy. Although learning activities on the generation, transmission and utilization of energy are under development, the initial curriculum emphasis has been on the application of energy, since this is the aspect of energy most familiar to the students.

Learning activities related to the application of energy have been developed in the following groupings: small gasoline engines, appliances, small power tools, electrical devices, electronic devices and automotive engines. Each learning activity is designed to introduce the student to one aspect of the field of energy; it provides the student with an illustrated instructional booklet and the materials necessary for the student to accomplish some specific hand-on-task, such as setting the gap on a spark plug or replacing the cord

Progress to Date (continued):

on an electric appliance.

The small gasoline engines grouping contains twenty-two learning activities; all of these have been field-tested and revised. Student tasks in this grouping are typical of the tasks performed by a repairman in this field. Depending on the age and maturity of the student, the instructional booklets can be used for awareness, exploration or skills training. Learning activities in the other groupings follow the same pattern: appropriate tools and other materials are provided and the student follows the illustrated instructions to complete specific tasks.

The illustrated instructional booklets are designed to ensure student success in completing each task. The student succeeds in accomplishing what he sets out to do, working on his own, at his own speed.

Plans For the Future:

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Free brochure describing the Energy and Energy Devices Curriculum Project.

Person to Contact Dr. George B. James Office Phone 617-345-1924

Address Fitchburg State College, 160 Pearl Street, Fitchburg, Massachusetts 01420

OR-76-88

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Aircraft Construction Workshop

Department / Division Industrial Education Department

Institution / Organization Eastern Michigan University

City, State Ypsilanti, Michigan Zip Code 48197

Director(s) of Activity Alfred C. Roth Title Asst. Prof.

Date Initiated July 12, 1976 Date Concluded August 6, 1976

Sponsor / Funding Agent Wolverine Aviation, Willow Run Airport

Descriptors:

Aeronautics and Aerospace

Transportation Systems

Instructional Materials

In-Service Education

Purpose / Goals / Objectives of Activity:

The purpose of this workshop is to introduce interested Industrial Education Teachers to an exciting educational activity that they can carry on in their own schools. Participants will learn methods and techniques of modern aircraft construction and utilize them to build a complete, flyable airplane. Aircraft construction projects adapt well to the industrial education laboratory and relatively few special tools are needed. Construction processes include machining; welding; sheet-metal forming and fabricating; woodworking; plastic forming, fitting and joining; metal, wood, plastic, and fabric covering and finishing.

Progress to Date:

Workshop enrollment arrangements have been announced and materials for the aircraft are being purchased. The general metals laboratory at Eastern Michigan University will be the location where aircraft construction will be done.

Progress to Date (continued):

Plans For the Future:

Additional aircraft construction workshops may be scheduled for successive summer terms.

Project Publications:

For publications and information contact:

Experimental Aircraft Association, Inc.
P. O. Box 229
Hales Corners, Wisconsin 53130

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: General information regarding workshop.

Person to Contact Alfred C. Roth Office Phone 313-487-4330

Address Industrial Education Department, Eastern Michigan University, Ypsilanti, Michigan 48197

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Energy Conservation Resources for Education (ENCORE)

Department / Division: Industrial Education

Institution / Organization: Texas A&M University

City, State: College Station, Texas Zip Code: 77843

Director(s) of Activity: Daniel L. Householder Title: Assoc. Prof.

Date Initiated: February 1, 1976 Date Concluded: August 31, 1976

Sponsor / Funding Agent: Center for Energy and Mineral Resources

Descriptors:

Research

Curriculum Development

Instructional Materials

Junior High School

Power Systems

Purpose / Goals / Objectives of Activity:

As a part of the activities of the Center for Energy and Mineral Resources, the College of Education has organized an effort in instructional materials development for the middle schools of Texas. Middle school teachers will work with consultants during a three week session, June 1 through June 18, 1976, to develop a series of energy-related instructional modules for use by students and teachers in several school subjects.

Progress to Date:

Principal sources of energy and energy conservation information are being identified. A filing system has been established to catalog this information. Energy experts are being identified, a plan for the selection of the participants has been initiated, and planning for the summer insititue is underway. Energy conservation topics are being identified in order that a method may be developed to incorporate these ideas into existing curriculums.

Progress to Date (continued):

Plans For the Future:

Continuation proposal has been submitted. Plans for the future include field testing, evaluation, revision, and duplication of the instructional packages; a continuing collection of relevant resources; development of an organizational structure for the infusion of energy conservation instructional materials and activities; dissemination of the developed materials and further in-service activities for teachers.

Project Publications:

None at present.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Estimate that materials may be available after September 1, 1976 on a cost-retrieval basis.

Person to Contact Daniel L. Householder Office Phone 713-845-3016

Address Department of Industrial Education, Texas A&M University, College Station, Texas 77843